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HISTORY
OF
Pittsburgh and Environs


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VOLUME III

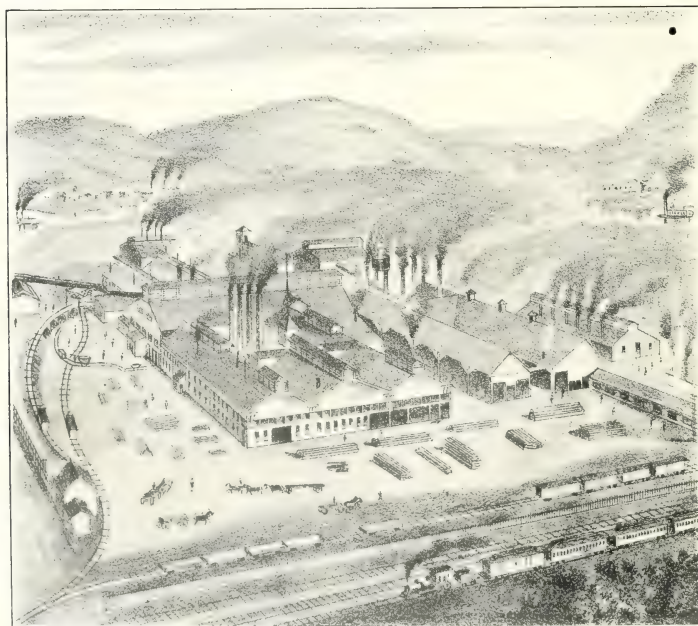
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History of Pittsburgh and Environs



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Above, AMERICAN IRON WORKS, JONES & LAUGHLINS, 1876; Below, CARNEGIE MILLS

CHAPTER XXIII.

The Early and Diversified Industries.

Pittsburgh became a manufacturing center under compulsion. Primarily, those who came to the head of the Ohio and its subsidiary territories, came to engage in agriculture and its correlative branches; this because of the very cheap lands, rich in water, wood and climatic resources, but poor in proximity to markets. It is likely true that the first settlers who took up farms in this community had in mind that Pittsburgh would soon become a big distributing center because of the advantages of its site at the confluence of the Monongahela and Allegheny rivers. They also thought that those pioneers who had gone into Ohio, Indiana, Illinois and the country south of the Ohio river as far as its mouth would very early have to have their farm products both for food and seed at prices that would be satisfactory to the buyer and profitable to the seller. The local farmer assumed also that there must be a trade midway between the sources of the Ohio and the Cumberland and Susquehanna valleys, even beyond, that would have to be supplied from the western country. But it happened that in these regions were agriculturists of the same enterprise, industrious habits and foresight as their western neighbors and the eastern promise had no fruition. The western prospects also withered because of hostile Indians, lack of proper transportation facilities and the repugnance of the farmers themselves to trying the dangers of the Ohio and other rivers in the problematic search for a market.

These drawbacks were the developments of those discouraging years immediately succeeding the close of the American Revolution. Grain was then distilled, and its whisky, because of its superior quality, was horsebacked across the mountains indifferently to Baltimore and Philadelphia, as well as to points intermediate, where it found a very good exchange market; that is, it was traded in for salt, cloth, iron products of actual necessity and other indispensables. So general was distilling in the new republic that Alexander Hamilton, Washington's Secretary of the Treasury, listed it among those things that would bear a tax and it received its proper proportion. The "Whisky Insurrection" was the immediate outcome of this action, with the result that the Treasury lost much money in its suppression, and the integrity of the United States was dangerously menaced for quite a time. "Monongahela Whisky" came into its modicum of publicity, however, which gave it prominence until the drastic development of the Eighteenth Amendment swept this and other brands off the list of "American Iniquities." However, the popularity of the distilled liquor of this section had something to do with improving transportation facilities as well as establishing these as among the first of Pittsburgh district manufacturing specialties.

Southern markets gave no initial promise of profit to Pittsburgh agriculturists or to manufacturers for several reasons:—the long time in mak-

ing the trip, especially as far as New Orleans; second, methods of New Orleans buyers that wore out the patience and ate up the profits of northern sellers. French and Spanish customers in those days were "tricky and unreliable." Philadelphia and other eastern manufacturers were sending their goods to Pittsburgh either for sale and consumption there or for transshipment to trans-Allegheny markets. Local enterprise very soon awoke to this fact and was quick to take action; first in a small way, but very early with a vision and vigor that soon gave them preference throughout the new territory.

Agriculture was at once subordinated to new conditions in the production of smaller crops which were necessary at very fair returns for the subsistence of the local population. Pittsburgh had another advantage; that was the circumstance that most of those enroute to the West and South assembled in their town to take passage to their several landing places in the Ohio and Mississippi rivers, which gave them time to take stock of the various resources of the town. These settlers soon found that many of the essentials for their new homes and farms, as well as the little factories that some of them intended building, were to be had at much more reasonable prices than in any of the eastern markets, and were ready to take with them on their trips to their new homes. This fact was speedily apparent to the Pittsburgh manufacturer and tradesman of whatever nature, and production was hurried in every line. Letters from those who had bought from Pittsburgh producers to those in the East who contemplated joining them in the West and South, notifying them of the advantages of buying in Pittsburgh especially in the matter of convenience, both in prices and quick shipments, multiplied their customers and expanded the area of sales greatly very early in the history of local manufacturing. Gradually, too, the boating facilities began to improve, which gave these manufacturers great advantages over eastern competitors which they were quick to see and just as quick to take care of. Manufacturing had struck its stride and Pittsburgh had discovered its destiny. Other cities, east and west, north and south, have vainly imagined that the finger of this destiny has pointed at them, indeed, they have risen in this illusion to be putative rivals of the "iron-steel-coal-electric-city," but each in turn has become conscious of the illusion and adapted itself to conditions indicated.

Transportation in those days was of the most elementary nature and was carried on in every direction under the most expensive conditions, but this subject is fully treated in another chapter.

Again, the Spanish authorities, envious and jealous of the prominence and progress of the New Republic, aided their representatives in Louisiana in their petty efforts to interfere with American enterprise in trade extension and for a long time prevented both dealing and the use of the facilities of the lower Mississippi river. However, Western settlement continued to increase and Western conditions to improve annually so rapidly as to give to Pittsburgh pioneer manufacturers of all descriptions, as well as merchants, that opportunity and atmosphere requisite to start that career in these particulars that has given the city

the primacy in manufacturing and to continue it well into the second century of its existence.

It must be understood that at the outstart artizans, skilled workmen, smiths, watchmakers, chandlers, skin dressers, foundrymen, glass workers, miners, merchants, indeed, mechanics of all kinds, eager to identify themselves and their fortunes with those of this New Republic, thronged to the head of the Ohio, to remain there and to start into affairs on their own accounts or to go farther towards the West and South, if necessary. Many of these were elder Americans, who had, before the Revolution, been engaged either as employer or employe in the activities east of the mountains or in the other states cloudily cognizant of the "Great West," but without definite information as to either its geography, its climate or its opportunities and promise. English grasp upon the western situation had just satisfactorily tightened upon it when the entire Atlantic coast was involved in the war of the colonists against England and again the very existence of the western country was almost forgotten. When the surrender at Yorktown resolved the problem of that war, "Westward the Star of Empire" literally and actually "took its way."

The rapacity and impudence of the business men and factors in New Orleans, whose great distance from Pittsburgh made communication difficult, eventually prompted General John Wilkins, Jr., to issue a circular letter to the farmers, traders and others interested in the development of the southern trade, apprising them of conditions and suggesting that a company be organized with a capital of \$100,000 for the purpose of establishing an agency or agencies in charge of northern business men to receive and handle the consignments of goods of all descriptions until they should be safely and profitably disposed of. Intelligence of this intention reaching the Spanish and French business men in New Orleans, the Spanish Intendant closed the port of New Orleans against the "people of the Western Country." This act dazed the western people at first and set them by the ears from the summits of the Alleghenies to the Spanish border, and was responsible very largely, among other cogent and territorial considerations, for the Jefferson purchase one year later and the elimination of the Spanish as a political and commercial element in the region east of the Mississippi river and north of the Gulf of Mexico. Public meetings were held numerously throughout the affected districts and Congress was variously and vigorously memorialized by those whose whole future was menaced by this overt act of the Spanish official. Many of the citizens of the West were in arrears to both government and creditors confidently expecting to discharge these arrearages by traffic profits in the south and the prospect ruined credit and financial and commercial disaster terrorized the whole West for a season. An Eastern market was unthinkable because of impossible transportation in either direction, the burden of each resting upon the shoulders and purses of the interior people. They represented to the President of the United States and to Congress that "protection and allegiance were reciprocal"; that the immediate inter-

position of the Government would be relied upon; that the people now had the right to demand of the Government protection in the prosecution of lawful commerce; that the Government should either take the people's produce at a reasonable price or relieve them from contributions, taxes, etc.; that delay was critical; "and that imperious necessity may therefore compel us, unless relief is afforded, to resort to measures which we may deem calculated to insure protection to our trade, though they may result in consequences unfavorable to the harmony of the Union." No record of Government response or of initiative remains, or were insurrectionary measures or compulsory steps taken, the supervision of the "Louisiana Purchase" coming so soon after this meanful menace, dispensing with western action or its necessity.

Pittsburgh and its dependent regions date the beginning of "big days" and "big business" from this purchase. Their goods and their products readily fell into the capacious maw of the voracious West and South, and continued to fall profitably therein until transportation facilities began to improve to the East, and thenceforward Pittsburgh business became a fact and a factor in the "markets of the world."

Curiosities of the commerce of the first decade of the nineteenth century were shipments of thirty tons of "Spanish brown" from Connellsville to Pittsburgh, this material being made from local earth; petroleum in small containers from Oil Creek; thousands of barrels of salt from Erie and Western New York; millions of feet of boards from the upper Allegheny; maple sugar in quantities made in local "camps"; cut and wrought nails and Juniata iron; tobacco; high wines made by the Economites, etc. In 1812 the iron mongery made in Pittsburgh was estimated to be worth \$174,240, the weight 396 tons; coal was shipped in quantity to Cincinnati in 1818, taken from the hills on the south side of the Monongahela river on the southside of Pittsburgh. It brought twenty cents per bushel in Cincinnati.

Distinctive manufacturing, however, began with the very dawn of the existence of Pittsburgh. Bricks, stone-cutting and dressing and the sawing of logs were the first requirements for local development and these appear to have been vigorously engaged in by many contractors and laborers. Brickmakers seem to have been among those brought in by General Forbes with his army of occupation in 1758. Other artisans came in 1760 and thereafter until the check that came because of the Revolution, although the check was not quite general. Brick kilns, saw-mills and stone-quarries, naturally, then were the first manufacturing plants. Grist mills and very rude distilleries, the latter were everywhere present, followed the first-named plants. Jonathan Plummer made the first Monongahela whisky distilled west of the mountains, and George Washington drank of it and pronounced it good. The "Pittsburgh Gazette," with faith's discerning eye said in its issue of August 26, 1786, "This town must in future time be a place of great manufactory; indeed the greatest on the continent, or perhaps in the world." It required less than a century to justify this prophecy. At that moment Pittsburgh business was paying "six pence for each pound weight; this

fact alone would soon compel the inhabitants here to do their own manufacturing. The manufacturing will therefore become more an object here than elsewhere. It is a prospect of this, with men of reflection, which renders the soil of this place so valuable."

Individuals were the first manufacturers. These were coopers, silversmiths, tanners, curriers, tailors, cabinet-makers, shoemakers, weavers, spinning-wheel makers, nailers, reed-makers, brewers, potters, wheelwrights, and many others, some having a few journeymen or apprentices to help them. Cash for their products came almost entirely from the settlers who took boats here for points south and west, these manufacturers getting from local customers articles of food, clothing and other materials in exchange. Notwithstanding the scarcity of real money the new manufacturers regarded the future with a serene confidence that never abated or diminished in the least, no matter the depression consequent upon the lack of orders or the dearth of currency.

The vision of the pioneer editor of the "Pittsburgh Gazette" was never clouded for a moment. In this paper in April, 1789, he said: "This country offers at present the most unbounded encouragement to the artificer and laborer. * * * The reward which the mechanic meets with is greater than at any former period. One pair of shoes which costs 11s. 3d. will buy one hundred eighty pounds of wheat which will furnish one hundred pounds of flour; the shoes will also procure more than sixty pounds of good beef or pork. The necessaries of life are uncommonly low and the workmanship of the industrious artizan, whatever he may be, is amply and deservedly rewarded. * * * We should employ our own workmen instead of foreigners, those of our town or county in preference to those at a distance from us. I wish this State would give a bounty of forty shillings to every mechanic or laborer who arrives in it from Europe. Population and industry are the true causes of national greatness."

Manufacturing received its real impetus in 1794, just after the Government had suppressed the Whisky Insurrectionists. President Washington sent troops from several states here in the contingent assembled to quell this incipient movement against the young government, some of whom remained on guard until the restoration of order was assured. Many of these soldiers had opportunity of observing people and conditions and determined to remain. Others, in considerable numbers, returned to the East, disposed of their effects, and came back to make their homes here. Influx of very many desirables tended to swell both the village and rural population and in 1794 Pittsburgh became a borough and there appears to have been a very creditable effort made to make it as large and as important as facilities would allow.

General James O'Hara built a glass factory in 1797 which owing to the wealth and force of the man may be considered the most important industrial enterprise up to this time; this subject is treated in our chapter in the glass industry.

Before the beginning of the nineteenth century, beaver, "castor and roram" hats were made by Thomas and Samuel Magee; Joseph McClurg

operated a tobacco factory; Joseph White conducted a wagon, chair and coach factory; James Doran a dyeing establishment; Mr. Wells a boot and shoe establishment; Zadok Cramer a printing and book-binding concern (also edited and published "Cramer's Almanac") the most luminous and reliable source of early history available today concerning Pittsburgh and its environs; James Morrison was making carpenters' planes and cabinet work in 1798; William Cogan was manufacturing cigars and tobacco; J. G. Ramsay was doing a thriving brush-making business and Matthew McKown was "struggling to make stocking weaving a success." In 1801, George Cochran was chair-making, and "Hugh Stevenson attempted to weave all styles of stockings, but was not successful." Dobbins & McElhinny conducted a cabinet maker's and upholstering establishment; John Davidson and William Hays operated a tannery prior to 1803, and James Caldwell had one in use 1801-3; William Cecil "made and sold ladies' buckskin saddles, gentlemen's plain burr spring and inlaid saddles and bridles, saddle-bags, portmanteaus, valises, traveling canteens, bolsters, light horse caps, fire buckets, etc. Samuel Haslam, from Bolton, England, was spinning both wool and cotton in 1803, his advertisement warning the public that "he hopes none will come by way of speculation into his works without leaving twelve cents and a half." John Sumrall and Joseph McCullough established a boat yard at the "Point" in 1803, having removed here from McKeesport. O'Hara and Coppinger opened a brewery the same year; Thomas and James Bracken, who had been operating a pottery, dissolved partnership this year, Thomas Bracken continuing its operation.

Pittsburgh had its first recorded strike in December, 1804, when the following notice was posted: "This notice is intended to inform the traveling journeymen shoemakers of Pennsylvania, or of any other State, that the journeymen of this town made a turnout for higher wages. Two or three of their employers had a meeting, and having a number of apprentices thought proper to advise the other master shoemakers to raise the boarding from one dollar and a half to two dollars and twenty-five cents per week. We think it our duty to give this notice to all journeymen shoemakers that they may be guarded against imposition. The following are the prices which we turn out for, viz.: Fine shoes, 80 cents; coarse shoes, 75 cents; women's slippers, 75 cents; bootees, \$2.00; long boots, \$2.50; coffacs, \$2.50. N. B. We would not advise any journeymen to come here unless they want a seat of cobbling." What came of this pioneer strike does not appear in the chronicles.

In October, 1806, Pittsburgh's people, more than two thousand, lived in about four hundred houses. Active manufacturing was going on in the production of glass, nails, hats and tobacco. About forty retail stores and establishments catered to these inhabitants.

Peter Eltonhead established the first cotton factory in 1804, business men and citizens liberally subscribing to the enterprise. Eltonhead was a practical cotton manufacturer, from Manchester, England. Later, snuff, and tobacco manufacturing plants were established by George Sutton and Peter Maguire & Co. William Price erected a factory for making

delft ware. Scott & Armitage built a cotton mill; this firm and Mr. Kerwin were making dimities, checks, cambrics, etc., horses furnishing the power. Great herds of hogs were driven on foot over the mountains in these years to eastern markets. An order came from the capital of Kentucky, Frankfort, for a large order of chains for the construction of its new bridge over the Kentucky river.

Among the numerous articles made "for export in 1807 were jars, green bottles, window glass, white flint glass of all kinds, decanters, tumblers, cut glass, beer and porter bottled and barreled, saddles, bridles, boots and shoes, tin and copper ware, stills, weavers' reeds, metal buttons, snuff, cigars, twisted tobacco, chairs, cabinet-work, carpenters' planes, etc. In that year, one of its best early years in manufacturing and building, were the following: Kerwin's cotton mill; O'Hara's South Side green glass factory; McClurg's Pittsburgh air furnace; Bakewell & Co.'s white glass works; two breweries; four nail factories, one of which made one hundred tons of cut and hammered nails annually; seven copper smith, tin plate workers and japanners; Wickerham's wire weaving and Riddle factory; one brass foundry; six saddlers and harness-makers; two gunsmiths and two tobacconists; one bell-maker, three tallow chandlers; one brushmaker; one trunkmaker; five coopers; thirteen weavers; ten blue dyers; one comb maker; seven cabinet makers; one turner, six bakers; eight butchers; two barbers; six hatters; four physicians; two potteries of earthen ware production; three straw bonnet makers; four plane-makers; six milliners; twelve mantua-makers; one stocking weaver; two bookbinders; four house and sign painters; two portrait painters; one mattress maker; three wheelwrights; five watch and clock makers and silversmiths; five bricklayers and five plasterers; three stone-cutters; eight boat, barge and ship builders; one each of pump-makers, looking-glass makers, and lock-makers; seven tanyards; two ropewalks; one spinning-wheel maker; seventeen blacksmiths, thirty-two carpenters and joiners; one machinist and whitesmith; one cutler and toolmaker; twenty-one boot and shoe-makers and cordwainers; five Windsor chairmakers; thirteen tailors; one breeches-maker and skindresser; twelve school masters; four school mistresses; thirty-three taverns; fifty-one mercantile stores; four printing offices; six brick-yards; two book-stores; four lumber yards; machinery and cotton goods maker; one claypipe factory; one copper-plate printing press.

Oliver and Owen Evans came from Philadelphia in 1809 and erected a stone grist mill on the bank of the Monongahela river; at first the mill had two runs of stones, each with a capacity of eight bushels an hour. It was asserted of this mill that "the construction and mechanism will do honor to human invention"; McClurg & Co. made some of the machinery. The same year John Gorman & Company erected an extensive brewery near Suke's run, on the river bank; James Arthur's new carding and spinning establishment had an immense vogue from the start: Benjamin Ramage began stocking weaving in 1810; stocking weaving enterprises in many instances had been theretofore unfortunate; George Robinson erected a white flint glass factory on Water

street between Grant and Smithfield streets; William Eichbaum established the only glass cutting factory in the United States, and also made very fine chandeliers; Reuben Neale made metal buttons in 1808; before 1810 several attempts were made to establish small plants, but these were either abortive or ephemeral.

Among the new establishments in 1810 were a steam grist mill; three wool and cotton carding and spinning mills; two distilleries; three breweries; two air furnaces; two potteries; three glass works; three red-lead factories; seventeen smitheries; six tanneries; four cooperies; six naileries; six copper, brass and tin factories; three printing establishments; three boat and ship yards. In 1812 the Harmony Society established its warehouse for the reception and distribution of their various products, in charge of Isaac Bean, their Pittsburgh agent. In 1815 steamboat building became an important branch of the great area of Pittsburgh's productions and still continues, although in more limited meaning.

Meantime Pittsburgh was beginning to encounter fierce competition from both domestic and foreign sources and the reaction from the war of 1812 was also acutely felt throughout the West and South. Geography favored each of these youthful contenders for products, and each was fairly independent of eastern competition. It was very easy, however, for the markets of Europe to send their products to points along the Atlantic and Gulf coasts in competition with those of both the East and West of North America. Many European artisans and laborers had come in before 1811, and after the Peace of 1815 these began to arrive in much larger numbers. All were valuable adjuncts to plans for increasing production in whatever lines, and all readily found paying employment; they had come to stay, and eventually to become manufacturing employers themselves. They represented the best class of English, Scottish and Irish artisans, with small admixtures of French, Swiss and Germans. These workmen speedily suggested schemes for new plants in which might be made goods theretofore not made in America, at least in the western regions. These plans were avidly seized and digested and almost invariably adopted. Pittsburgh was the principal beneficiary of the suggestions, and annually new factories were erected and the manufacturing area of city and community largely expanded and extended.

In these formative years of "America's Infant Industries" the menace of foreign competition was already beginning to throw its shadow athwart the manufacturing horizon. Advanced thinkers engaged in producing articles of all kinds were nebulously pondering this problem and searching their consciousness for methods of solution, at least for a plan of mitigation. Protection had been broached tentatively, possibly not beyond a tentative consideration of application to intimate and special cases, but it was already brewing in the minds of those nearly interested and affected. The information of the existence of ores, especially iron, in great quantities in sundry sections of the United States, was by no means of private nature. It was also felt among those devoted to the manufacture of iron specialties that the principal eventual manufacturing

interest of its people must be the production of iron. These also felt that the United States must spend not a few fruitless years in inceptive and experimental work ere the definite development of production. These could not figure the patriotism of their native customers above their pockets, and hence were fearful of entering into a competition that would, in its results, eventually inure to the profit of their alien competitors. Thus far (1815 and the few following years) the home market had not been hard hit, but the finish of the war of 1812 had left the home field open to competition of the world. The "Pittsburgh Mercury" of October 31, 1817, with a saturated idea of its subject said:

Foreign goods are now cheap. The makers and sellers of them are willing to lose money for a few years in order to crush our manufactures and to secure a perpetual monopoly. When we buy all and make none, we shall be at the mercy of foreigners and importers. Glass tumblers will not sell for eleven pence per dozen; iron will not sell for forty dollars a ton. Will the men who now depress our bank paper seven per cent, have too much conscience to add one hundred per cent to the price of their goods? A crisis is rapidly approaching. The capital of our manufacturers is not endless. The rapid progress of American manufactures during the war has brought England to its present distress. Both cannot flourish here. The people must decide. It is said that domestic manufacturers made unconscionable profits during the war. That was due to the want of goods of every kind; merchants could ask and get their own prices; importation had ceased and home manufactures were limited. Merchants put up their prices; why should not the manufacturers? Did anybody pay higher for domestic than for foreign goods? It is said, also, that the quality of domestic goods is not as good as of foreign. With time our fabrics will vie with the best productions of Europe.

A gentleman called at Mr. Bakewell's to examine his glass. He was shown a decanter which the son of Mr. Bakewell had selected in London as a pattern or specimen of the best glass and the best cutting. The gentleman looked at it, examined it slightly, said it was very good for American, but not equal to English. The imported article is forced on our market at one half the cost, for the express purpose of preventing our making it. Our manufacturers cannot make these sacrifices; they cannot sustain themselves six months longer in the present state of affairs.

In December, 1817, Mr. Lowrie in the Pennsylvania State Senate reported a measure "on the importance of protecting domestic manufactures." He explained that "our manufactories will require the continued attention of Congress. The capital employed in them is considerable, and the knowledge acquired in the machinery and fabric of all the most useful manufactures is of great value. Their preservation, which depends upon due encouragement, is connected with the highest interests of the nation."

December 21, 1817, the citizens of Pittsburgh held a mass meeting "for the purpose of inquiring into the state of the manufactures" and report upon the same. The important item in this report was:

Within a few years past Pittsburgh has grown from an inconsiderable town to a city of ten thousand inhabitants (an overestimate). Two thirds of the population are supported by manufactures. The enterprise and skill of our artificers have created a circulating capital of a very great amount. * * * The great public injury and private distress which have attended the late depression of manufactures seem not confined to Pittsburgh. The tariff of duties established at the last session of Congress and the history of the present year, will demonstrate the utter futility of their expectations of encouragement. * * * In the discharge of this duty they have

found that the manufacture of cottons, woolens, flint glass and the finer articles of iron has lately suffered the most alarming depression. Some branches which had been several years in operation have been destroyed or have partially suspended, and others of a more recent growth annihilated before they were completely in operation.

This cry came from the "Pittsburgh Gazette," then thirty-two years old, and always the most intimate expression of Pittsburgh's very heart. Long lists of "suspended animations" and failures fill the papers of the day, all charged to the indifference of the government to the rights of domestic manufacturers. One month after that meeting an inventory of the manufacturing resources of Pittsburgh disclosed the fact that the city had 144 establishments employing 1,112 men and boys who produced manufactures of the value of \$1,855,464 annually.

The justness of complaints may be appreciated when it is understood that the people were at that time taxed twenty cents per bushel on salt; fifty per cent. on coffee; thirty to forty per cent. on brown sugar; seventy-five per cent. on tea; one hundred per cent. on pepper and fifteen per cent. on indigo. Following repeals were made: six cents per gallon on whisky; five per cent. on coaches and pleasure carriages; two per cent. on auctions of foreign goods; one-ninth of one per cent. on bank stock, which equalled one and one-half per cent. on dividends; four cents per pound on loaf sugar; one-half of one per cent. on licenses to retailers of spirits and foreign merchandise.

The three papers, the "Gazette," "Mercury" and "Statesmen," stood together in this crisis in favor of a strong protective tariff, and urged the election of Henry Baldwin to Congress. Mr. Baldwin in Congress was able, in coöperation with others, to get duties on cottons and woolens increased twenty-five per cent, sixty-six per cent on iron, a "considerable" increase on nails, and thirty-three per cent on cut glass.

The iron business constituted the major part of the industry in the first quarter of the Nineteenth Century, and is treated of in another chapter. In the Jones compilation of the manufactures of Pittsburgh, published in 1826, there are noted in addition to the rolling mills before mentioned, the Pine Creek rolling mill, a few miles above Pittsburgh; the McClurg, Jackson, Phoenix, Stackhouse, Allegheny, Stackhouse-Thornberg, Price's, and the Birmingham foundries. Among the nail factories are mentioned the Union Rolling Mill Co., Sligo Nail Factory, Juniata, and the Pine Creek Nail Factory. Of steam engine factories there were six: The Colombian Steam Engine Co., Warden & Arthur's, Stackhouse and Thornberg's, Brown and Binney's, M. B. Belknap's, the Pine Creek and Mahlon Rogers'. There were six cotton factories: James Arthur & Sons', The Phoenix, John McIlroy's, James Shaw's, and Thomas Graham's. Near Pittsburgh was the factory of Tilford & Sons, which manufactured stripes, plaids, etc., also cassinets and woolens. Beside, there were forty-seven looms engaged in various kinds of weaving, such as coverlets, carpets, linens and cotton cloth. The woolen manufactures were somewhat limited. James Arthur & Sons, in connection with their cotton factory, also carried on the manufacture of woolens, making broadcloths and cassinets, and Hendrick & Gibb also

made woollens, their machinery being driven by hand power. Paper manufacture was also carried on here and in the vicinity to a considerable extent. There were nine mills, four in Pittsburgh proper,—the Anchor Paper Mill, owned by Henry Holdship, at the corner of Ross and Brackenridge streets, was the largest paper manufacturing establishment west of the Alleghenies. Another was the Pittsburgh Steam Paper Mill, owned by J. Patterson & Co., located at Northern Liberties. Flour was manufactured extensively both in Pittsburgh and Allegheny by four steam mills. Among the prominent ones may be mentioned the Evans Mill, the first erected in Pittsburgh; the Eagle, established by Anthony Beelen, but at this time owned by Mr. Henderson, making 3,000 barrels of flour per year, besides a large amount of feed; Sutton and McKnickle's Birmingham Mill was well known, as was also the Allegheny Steam Mill, established by William Anderson and owned by John Herron. Nearly all these mills furnished power for other branches of manufacturing. The Evans Mill had attached to it a plow factory; Herron's saw mill was connected with his flour mill in Allegheny, and there was a turning and boring mill at Sutton and McKinckle's Birmingham Mill. In addition to the industries noted above, there were twenty-four smitheries which made various kinds of tools, such as shovels, axes, etc. The leather industry was divided among nine tanneries. The more important were owned by Hayes, Caldwell & Peters; Thompson, Brown & McCaddon; Bayard & Sample; and Robert McIlhenny. Saddlery was manufactured extensively by John Little and by Hanson, Brice & Plummer and Co., the latter firm conducting two establishments. Many other industries receive more or less mention in this compilation, which is too exhaustive to give detail here. They are included in the subjoined complete list of industries and the value of their product.

<i>Industry.</i>	<i>Value of Products.</i>	<i>Industry.</i>	<i>Value of Products.</i>
Iron	\$559,000	Flour	\$36,000
Nails	309,000	Boards, brick and stone.....	37,500
Castings	132,610	Leather, shoes and saddlery..	236,000
Steam Engines	152,800	Potteries	6,180
Cotton goods	200,488	Ropes, twine, etc.....	15,000
Woolen goods	33,667	Tobacco, cigars and snuff....	53,000
Glass	131,804	Wire work	10,000
Paper	82,400	Salt	8,000
Brass, tin and copper ware....	73,000	White lead	23,100
Smithwork and other metallic manufactures	82,000	Miscellaneous manufactures..	135,000
Woodwork	177,000		
Spirituous and malt liquors...	60,000	Total	\$2,553,549

The census of 1850 gave Pittsburgh proper a population of 46,601; Birmingham, 3,741; East Birmingham, 1,624; South Pittsburgh, 1,883; Lawrenceville, 1,734; grand total, 55,583. The 1850 Directory of Pittsburgh gives this summary of the manufacturing interests of the city and district: Thirteen rolling mills, capital about \$5,000,000, and employing 2,500 hands; these mills consumed about 60,000 tons of pig metal, and produced bar iron and nails amounting to \$4,000,000 annually. Thirty large foundries, together with a great many smaller ones, having

capital in all amounting to about \$2,000,000, employing not less than 2,500 hands; these foundries consumed 20,000 tons of pig metal annually, and yielded articles amounting to about \$2,000,000. Two establishments manufacturing locks, latches, coffee mills, patent scales, with a great variety of other malleable iron castings, capital of \$250,000, employing 500 hands, consuming 1,200 tons pig metal, and producing goods amounting to \$300,000 annually. Five extensive cotton factories, besides many smaller ones, with capital amounting to about \$1,500,000, employing 1,500 hands; these establishments consumed some 15,000 bales of cotton, and produced yarns, sheeting, batting, etc., amounting to upwards of \$1,500,000. Eight flint glass manufactories, with capital of \$300,000, employing 500 hands, consuming 150 tons lead and 200 tons pearl ash, and producing various articles of glassware amounting to \$400,000. There were 7 phial furnaces and 11 window glass manufactories, with capital of \$250,000, employing 600 hands, and producing \$600,000 annually. One soda ash manufactory, producing 1,500 tons annually, employing 75 hands. One copper smelting works, producing 660 tons refined copper annually, valued at \$380 per ton, amounting to \$250,000. One copper rolling mill, producing 300 tons sheeting and Brazier's copper, amounting to \$150,000 annually. Five white lead factories with capital of \$150,000, producing 150,000 kegs lead annually, worth \$200,000, employing 60 hands. There were also a number of manufactories of the smaller sizes of iron, several extensive manufactories of axes, hatchets, etc., spring steel, steel springs, axles, anvils, vises, mill, cross cut, and other saws; gun barrels, shovels, spades, forks, hoes, cut tacks, brads, etc., an establishment manufacturing cast, shear, and blister steel, and files, all said to be of very superior quality, besides a great variety of manufacturing establishments not enumerated in the above list. There were consumed about 12,000,000 bushels of coal annually in the manufacturing establishments, valued at \$500,000, and an equal number of bushels exported to the lower markets, giving employment to upward of 4,000 hands. After a careful investigation it was estimated that the value of the manufacturing and other lines of business amounted to \$50,000,000 for the past year.

The commercial interests of the East and the planters and business interests of the South concerted to oppose every effort made in the interest of increasing tariff duties intended to favor American manufacturers, and for years were measurably successful. The growth of northern and mid-western industrial interests, supported as they were by the annually increasing populations, gradually overbalanced the selfish free labor southern district in the election of 1860, and iron uncrowned cotton and with steel has since reigned as an American paramount product. Pittsburgh fought this battle for supremacy consistently and conservatively until the die was cast in her favor. Since about 1890, when she took away England's domination of the steel production, Pittsburgh has been the premier producer of this great metal, and is shaping its course to continue in this premiership. Coal, natural gas and electricity have combined to give this city and its manufacturing

metropolitan district a commanding lead in iron, steel, glass, pottery, mechanical specialties, sanitary supplies, automobile fittings, locomotive construction, and in myriads of articles of scarcely inferior importance that other cities with equal and even superior natural and artificial advantages have tried vainly to overcome. Nothing has ever, in a manufacturing or structural way, been too big or too little for Pittsburgh's consideration and for Pittsburgh's construction.

The population of the city in 1870 was 86,076, an increase over 1860 of 36,859. According to the subjoined enumeration, which was published in 1870, the principal manufactories of the Pittsburgh district, with a population approximating 215,000, at that time were:

Iron mills	32	Machine shops	27
Steel mills	9	Cotton factories	5
Copper mills	2	White lead factories.....	8
Brass foundries	11	Potteries	9
Glass mould factories.....	2	Tanneries	26
Cork factory	1	Chair and cabinet factories.....	19
Breweries	52	Flouring mills	5
Malleable iron foundries.....	4	Saw mills	11
Chandlers	9	Wagon and car factories.....	12
Plow factories	4	Planing mills	17
Woolen mills	3	Locomotive works	2
Refineries	51	Glass factories	68
Tobacco factories	10	Distilleries	8
Saw factories	2	Shovel and axe factories.....	2
Foundries	48	Safe factories	2
Brickyards	13	Gas meter factory.....	1
Spring factories	7	Tinning shops	4
Spice mills	2	Coffin factory	1
File factory	1	Glass staining works.....	3

The aggregate capital invested in the seven leading industries of the district, including capital invested in mining and transporting coal and coke, and the annual value of products was:

<i>Manufactures.</i>	<i>Amount of Capital Invested.</i>	<i>Value of Products.</i>
Iron	\$50,000,000.00	\$29,000,000.00
Petroleum	9,200,000.00	8,000,000.00
Glass	9,000,000.00	7,000,000.00
Steel	5,000,000.00	5,460,000.00
Ale and beer.....	2,000,000.00	4,800,000.00
White lead	1,375,000.00	2,000,000.00
Coal and coke	22,369,000.00	12,000,000.00
Total.....	\$98,944,000.00	\$68,260,000.00

Diversified industries, exclusive of boat building, listed in Tax Assessors' books:

<i>Manufactures.</i>	<i>Amount of Capital Invested.</i>	<i>Value of Products.</i>
Tanneries	\$1,962,000.00	\$2,300,000.00
Tobacco factories	650,000.00	2,000,000.00
Cotton and woolen factories.....	1,550,000.00	1,688,000.00
Chair and cabinet factories.....	560,000.00	580,000.00
Brass foundries	390,000.00	492,000.00
Planing mills	580,000.00	735,000.00
Glass Staining factories.....	90,000.00	156,000.00
Potteries	186,000.00	142,000.00
Brick Yards	180,000.00	336,000.00
Tinning shops	163,000.00	362,000.00
Carriage factories	294,000.00	278,000.00

Distilleries	302,000.00	2,984,000.00
Wagon factories	160,000.00	286,000.00
Brush factories	33,000.00	62,000.00
Marble yards	148,000.00	326,000.00
Bellows factories	40,000.00	70,000.00

Total.....	\$7,288,000.00	\$12,797,000.00
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	<i>Amount of Capital Invested.</i>	<i>Value of Products.</i>
<i>Manufactures.</i>		
Boat building (estimate).....	\$500,000.00	\$1,000,000.00
Miscellaneous manufactories on which no definite returns were received (estimated)	2,750,000.00	7,000,000.00

Summary.

Grand total—amount of capital invested.....	\$106,732,000.00
Grand total—amount of products.....	82,057,000.00

The success of the Allies in the World War hinged more nearly upon the things that Pittsburgh furnished than upon any other one necessity in all of the vast and various necessities of that titanic struggle for human freedom. Pittsburgh gave not only the materials, but she gave of her moneys, her resources of every description, her young manhood, indeed, of her everything—largely, liberally, and uncomplainingly, but not even in this giving was she ever “bled white.” That can only come when she is besieged by the rest of the world combined, because it will require to work a complete destitution of resources of material and of mechanical and technical human material. That would be a “back against the wall,” hard to imagine. In this consciousness there is not and never has been that swagger peculiar to Germany, France and even England, in the knowledge of potentiality and possession, indeed, in the smugness of certain American cities which have tried in vain to surpass but have scarcely been able to do more than feebly imitate. The very vitals of that world-power the United States Steel Corporation come from its Pittsburgh constituents and there are still present sufficient of interests almost identical with these to compose a deadly rival to this giant of steel production.



CHAPTER XXIV

Iron and Steel.

Iron ore was discovered in America by members of the expedition sent to North Carolina by Sir Walter Raleigh in 1585, and this discovery was a part of the report of those in charge of this expedition. No effort was made to develop the ore beds, nor is there record of assay or even of extended description of conditions. Raleigh's persistence in his attempts to settle and to develop North Carolina in the teeth of dangers, shipwrecks, loss of fortune and other disastrous happenings, is indicative of his intelligence and intrepidity, as well as of his vision of the future of North Carolina and of all America. Early explorations were as well for ores of all kinds as for homes and other purposes, the Spanish in their avaricious raids in the southern and western sections, especially that of Cortez in Mexico, having stimulated cognate desire in sister European countries.

Iron ore was found in Virginia, in the vicinity of Richmond, on Falling creek, a tributary of the James river, a short time after the settlement, and the specimens analyzed in England encouraged both local capitalists and Englishmen of means to undertake its manufacture. The London Company sent materials and men to erect "three ironworks" at Falling creek in 1619, and iron was made there until 1622, when the Indians fell upon the pioneer plant, killed most of those engaged in its operation, and destroyed it. This tragic finale to the attempt to establish the first iron mill in America seemingly discouraged Virginians for fully a century. Massachusetts enterprise twenty-one years later attempted to make iron in a furnace erected on the west bank of the Saugus river at Lynn. John Winthrop, Jr., was president of this company and its real inspiration. Iron pots and domestic vessels seem to have been their specialties. In 1651 a forge was built to operate in connection with the furnace. The Leonard brothers, one of whom had been employed at Lynn, built in 1652 at Raynham, in Massachusetts, a forge. A small iron pot was the first vessel cast in Massachusetts in 1644. Connecticut had its first ironworks at New Haven, erected by Captain Thomas Clarke in 1656. Nearly one hundred years afterwards, Thomas Lamb built a forge at Lime Rock; in 1748 another forge was erected at Lakeville and in 1762 "Ticonderoga." Ethan Allen built the first blast furnace in Connecticut, at Lakeville, in connection with John Haseltine and Samuel Forbes. Rhode Island was making iron soon after its settlement in 1636, when a furnace was built at Pawtucket by Joseph Jenks, Jr., but, like its predecessor in Virginia, it was destroyed by the Indians, who burnt and razed several of its successors. Henry Leonard, who had built a forge at Raynham, Massachusetts, in 1652, emigrated to New Jersey and erected the first forge in that province at Shrewsbury in 1664, or soon after. It is thought that Col. Morris owned and operated a forge and furnace at Shrewsbury about 1682. New York was not as quickly in the

iron production as her neighboring provinces. Philip Livingston built an ironworks on Ancram creek in Columbia county about 1740.

Meantime Virginia had reawakened to the importance of iron, and Col. Alexander Spotswood built a smelting furnace on the Rappahannock river at Fredericksburg, and "a very complete air furnace" at Massaponax, fifteen miles away on the same river, about 1715. In 1732 four furnaces were in operation on the Rappahannock river. George Washington was born in that year. Augustine Washington, father of George, was interested in the Principio furnace, supplying it with much of the ore used from the beds on his own plantation. His plantation was at Bridge's creek, in Stafford county. The company owning Principio furnace also established in 1715 the Principio forge at Cecil county, Maryland, likely among the first iron operations established in that province. Both of the Carolinas were making iron early in the Eighteenth century. Noting the chronological coincidences of establishment of furnaces and forges in the Coast States, it will be seen that the idea that iron production was to be the permanent and profitable destiny of the colonies was generally prevalent in all of them. The explorations of the Swedes, Finns and Dutch in New Jersey, New York, Delaware, Maryland and Pennsylvania prior and after the coming of the Penns in 1682, are interesting incidents of the enterprise, earnestness and energy of these sturdy pioneers who were blazing the way to that great army of successors who have verified their vision and justified their labor.

Prospecting for iron ore was as assiduously carried on in the eighteenth century clear across Pennsylvania as prospecting for gold was on the coast and near Coast States in the Far West after 1850. The early finds of ores were in the Philadelphia district, and the crude furnaces and forges were first erected in the forests in those localities contiguous to that city. The excellence of the ores and the comparative facility with which they were worked, as well as the measurably satisfactory prices for products, engaged the efforts of hundreds of well-to-do gentlemen who courageously sought out these "ore beds" and put up furnaces and forges. Traversing Pennsylvania was of easy definition for these prospectors after they reached the western boundaries of Lancaster county, following, as they did, the valleys of the Susquehanna, and its several important tributaries, the most prominent of which was that of the Juniata and its respective tributaries, all of which disclosed ores of such promise that soon furnaces were blazing from Philadelphia to the summits of the Alleghenies, for the most part south of the west branch of the Susquehanna to the Maryland and Virginia boundaries.

Iron in an experimental way was likely first made about 1692-93 from native ore, in the vicinity of Philadelphia. William Penn, in or after 1682, was shown specimens of copper and iron ores, together with other ores, and hopefully anticipated their development. The earliest iron was made from ore at a smith's furnace. Desultory activities followed the first efforts to make iron in Southeastern Pennsylvania, and it was not until 1716, two years before the death of William Penn, that

the first iron works were established in Pennsylvania, by Thomas Rutter, near Germantown. This works was a bloomary forge, called a "pool" forge. Colebrookdale furnace was built by a company of which Thomas Rutter, Anthony Morris, James Lewis and Thomas Potts were the members, Potts being the general agent. This furnace was erected in Berks county, on Ironstone creek, a branch of the Matawney, near the present town of Boyertown. Rutter is indisputably the first furnace as well as the first forge builder in Pennsylvania. "Friendly Indians" are mentioned as the first workmen engaged in the production of iron at this furnace, which finely embroiders the story of that enterprise that has distinguished Pennsylvania throughout the centuries and made her preëminent in this particular throughout the world. Another historical fact associated with the foundation of this pioneer furnace is that it was named in honor of Abraham Darby of the Colebrookdale furnace in Shropshire, England, who leased a small charcoal furnace in 1709 and changed it to a coke furnace. Darby was also a Friend or Quaker, another incentive for honoring a pioneer. Thomas Potts, after Rutter's death in 1730, became the owner of the Colebrookdale properties and managed them with pecuniary success for many years. At his death in 1752, his son Thomas became "two thirds owner of mines and furnaces."

Early in the eighteenth century, iron production in Pennsylvania was going strong, and expansive efforts were making to develop the resources of the State as rapidly as possible. Scouts of ability and experience, many of them abreast of the mysteries both of ores and of methods of their transmutation into the finished product, were among the most tireless and eager of the prospectors, and were everywhere in the valleys and in the mountains. Most of these were successful in their searches for ores, although it was left to the manufacturers of the succeeding century to reap the rewards in the measure that was the ideal of the pioneer. Those counties around Philadelphia were first explored, and in those the first furnaces were built and the first iron melted. Bucks, Montgomery, Schuylkill, Chester, the three counties of Delaware, were successively "examined," and westwardly and northwardly the scouts made their way. Lancaster county, which then included Lebanon county, was for a long time a rich field for these frontiersmen, and the Coleman mills remain today as a monument to their enterprise; no other iron mill in America has persisted in descent from generation to generation as has this famous property. The Pennsylvania German, then as now, was the active, industrious worker, farmer, and otherwise, in the county of Lancaster, and was very much interested in the iron development of his county. Kurtz, said to be an Amish Mennonite, likely built the first ironworks on Octorara creek in 1726. The Grubbs family followed him in this work in 1728, and others were soon on their heels. Considerable confusion in the methods of operating ironworks and furnaces characterized the early conduct of affairs, and many were failures, and their original operators ruined. However, this history is still a matter of annual repetition, pioneers succumbing to the weaknesses either of ig-

norance and inexperience or to the failure to procure the money to finance their half-baked schemes. Most of the valuable plants in the cluster of Carnegie properties were acquired by the failure of projectors to grasp the situation after they had spent millions to erect furnaces, plants and mills, to get into competition with those who had achieved success in virtue of experience and saturated knowledge of production. The mills at Duquesne and Homestead are glittering instances of the inability of inexperience to cope with the ability born of experience and years of contact with competition and other elements of business attrition, all steps in the curriculum of the "University of Manufacturing."

Robert Coleman acquired the holdings of Jacob Huber, who had built a small furnace on his own property prior to 1755 and had found it necessary to sell it to a company of which Henry William Stiegel was a prominent member. This company was, because of the non-residence of all of its members but Stiegel, dominated by Stiegel, who built a new furnace and otherwise improved the property, adding from time to time to its iron ore acreage and its inevitable value. He also bought for himself certain other iron ore lands in the vicinity, but after eighteen years became involved, and the entire property was sold at sheriff's sale to Daniel Benezet, the mortgagee. From Mr. Benezet, Mr. Coleman obtained a lease of the ironworks and reduced its operation to a system that almost immediately gave him a large and profitable production. This lease was effected in 1776. Mr. Coleman, while he was operating the Benezet property, bought large holdings in the vicinity, and in 1780 bought a third of the Dickinson holdings in the Elizabeth furnace and lands "thereunto belonging." Four years later he bought another third, and in 1794 he became owner of the entire estate. Thenceforward the Colemans have made iron and steel in that plant and its successors. He made shot and shell for the Continental army, and was active in the interests of the New Republic from the beginning. Contemporary with, in a measure, and coördinating, also in a measure, with the development of the Hubert or Stiegel properties, was that of the Cornwall furnace, built by Peter Grubb in 1742 to make iron from the famous Cornwall ore hills in Lebanon county. Grubb died in 1754, the estate descending to Curtis and Peter Grubb, sons of the proprietor, under the then intestate laws of Pennsylvania, Curtis receiving two-thirds and his brother one-third of it. Both sons were colonels in the War of the Revolution. Curtis Grubb in 1783 conveyed a one-sixth interest to Peter Grubb, Jr., his son, which interest two years later the young man sold to Robert Coleman. Mr. Coleman subsequently acquired four additional sixths, and in a short time was in full control of the Cornwall "Ore Hills." He died in 1825, leaving his great properties to his children, who have successively extended and expanded them until they are among the most impressive holdings in America. Valley Forge, in Chester county, was also one of the early historic forges. It was built and operated by Stephen Evans prior to 1757, who lost it within a year after 1757. The forge was at the mouth of East Valley creek, on the Chester side, the creek being a part of the boundary of Chester and Montgomery counties.

This forge was razed by the British soldiers in 1777, immediately before the occupancy of the site by Washington's ragged array. After the Revolution it was rebuilt, it is thought by David and Isaac Potts. The iron used at this forge was the product of Warwick furnace, which continued until 1867, when it was finally blown out.

Berks county was the very center of iron production activities long before the American Revolution, and has continued to be one of the most important manufacturing counties throughout succeeding years. The eastern section of Pennsylvania was largely given up to the production of iron, and in many sections of it this is a principal part of industrial energy. After the Revolution the trend of development was most largely towards the western counties and those of the southern part of the State. York, Franklin, Cumberland and Bedford counties were all large producers of iron in their early days.

Most bar iron made in Pennsylvania in the eighteenth century was hammered into shape at the forges out of blooms made from pig iron. In this practice, manufacturers differed from that in vogue in New England, where it was the custom to make it from the blooms produced in the bloomy fire directly from the ore. Stoves, pots, kettles and other domestic utensils were mostly Pennsylvania products. Benjamin Franklin invented a stove which was first cast at Warwick furnace in 1742, by his friend, Robert Grace, who had married the widow of Samuel Nutt, Jr., a pioneer founder. Sixty cannon were cast in the Warwick furnace in 1776 alone.

These early furnaces produced from ten to twenty-five tons of pig iron or castings weekly, the higher figure rarely being reached. Water-power was used to blow these furnaces, and in summer they were largely idle because of scarcity of water. The annual output of a furnace seldom exceeded 500 tons. Bar iron made in the Schuylkill valley was floated down the river to Philadelphia in boats, which were "poled" back with great difficulty.

This history, however, has to do more particularly with the rise and progress of iron and steel production in Pittsburgh and in the Pennsylvania watershed of the Ohio river. It was ten years before the dawn of the nineteenth century before the denizens became satisfied that agriculture would do little more than furnish them subsistence, raiment being a barren ideality, and that in a variety of manufacturing specialties alone was their only hope for profitable business. Racially these settlers differed little from their transmontane brethren; indeed, they were in many instances emigrants from the Cumberland, Potomac and Shenandoah valleys, with liberal contributions from Maryland, New Jersey and Delaware. The commotion consequent upon the Whisky Insurrection attracted quite a number of camp-followers to the army that President Washington sent over the mountains to suppress this uprising, and when the trouble was over, very many soldiers remained as permanent residents. Pittsburgh had become a borough in 1794 and was ably trying to become the honor both in internal resources and in the characteristics of its inhabitants, although the casual visitors of the day, after either

thorough or cursory inventories of these two assets did not hesitate to chronicle their unfavorable views, at least of the externals of visible municipal assets.

Curiously enough, the impulse to begin the manufacture of iron came from a source absolutely extraneous to that that had given initiative and impetus to the eastward and central Pennsylvania development. George Anshutz, an Alsacian by birth, arrived in America in 1789 and in 1792 came to Pittsburgh, it is thought to pioneer the movement at the head of the Ohio river. He erected the first furnace in the Ohio valley in what afterwards became the "Shadyside" district of Pittsburgh. He had been in Philadelphia, and no doubt had come overland through the developed manufacturing district intervening, and had accumulated such data as he needed relative to the inception of his project. Iron ore was plentifully scattered all over Pennsylvania, and Anshutz had found sufficient of a satisfactory kind to encourage him to build his furnace. Wood was the fuel, of which at that time there was an abundance; indeed, it very shortly exceeded the supply of ore adjacent to the new branch of local industry. At any rate, the furnace was blown out, after Mr. Anshutz had explored the hills in the vicinity of Pittsburgh and was unable to report a "visible" supply. He was able to procure ore from points in the Allegheny valley and also from the Kiskeminetas valley, which was shipped to him by boat on the Allegheny river and thence to the furnace by wagons. The shipments and trans-shipments proved to be ruinously expensive, and Pittsburgh's first iron furnace was a failure.

Mr. Anshutz, nothing daunted by his preliminary set-back in a land of promise, became manager of John Probst's Westmoreland furnace at Laughlinstown, in Westmorland county, and after a year in that position left it to build Huntington furnace in the county of that name, in 1796, in company with Judge John Gloninger and Mordecai Massey, and in 1808 he became a quarter owner of the property. He prospered finely, and was able to splendidly realize his dreams in his adopted country. He retired at a mature age and returned to Pittsburgh to reside, and there died in 1837, at the age of eighty-three. His posterity remains to honor his memory, descendants of one of the most daring and distinguished pioneers, whose title to a monument will one day be recognized by a people who have too long been oblivious to the claims of a host of pioneers who laid the foundations of the "Iron City of the World."

Mr. Anshutz, however, had the pleasure of witnessing the verification of his views as to the geographical claim of Pittsburgh to be the capital of the manufacturing district of America. He was a familiar figure in his age in the city, and to the end of his life he was in touch with the growth and advancement of manufacturing processes. His failure to overcome the embargo of freights and the lack of ore within convenient distances, tended to discourage other pioneers of courage and means, who had similar views as to the inevitable advantages that Pittsburgh possessed for the manufacture of iron and other heavy

products that all sections of the country would require in its present and progressive development.

Pittsburgh received its contagion of manufacturing, supposedly, from two exposures, one by way of Bedford and Fayette counties, the other from the upper Juniata valley by way of the tributaries and the valley of the Allegheny river. The first blast furnace, that at Orbisonia, Huntingdon county, built, in 1785, the Bedford, was erected by the Bedford Company, made up of Messrs. Edward Ridgley, Thomas Cromwell and George Ashman. Lytle, historian of Huntingdon county, says it was constructed largely of wood, and was five feet wide at the bosh, and either fifteen or seventeen feet in height. This company built a forge not far from the furnace soon after. Horse-shoe iron, wagon tires and harrow teeth were the products of the forge. Large stoves and other utensils were made at the furnace. Pittsburgh bought the first American bar iron ever brought to it from this forge. There was then no wagon road from this valley to Pittsburgh. In the forge the pig iron of the furnace was hammered into bars six or eight feet long, and then bent into the shape of the letter U, turned over the backs of horses and thus carried to Pittsburgh. Most of the products of this pioneer plant in its dual character were sent down the Juniata in "arks" to Middletown on the Susquehanna and intermediate points in that river, and hauled in wagons to Philadelphia, most of it, however, going to Baltimore. The Juniata valley was the normal school in which were educated and trained many of those who afterwards became the great manufacturers of Pittsburgh. The Shoenbergers, originally of Lancaster county, were early and able iron-mongers in this valley before they or their descendants came over the mountains and began making iron in a manner commensurate with their genius and real abilities. Dr. Peter Shoenberger became the greatest and most prominent ironmaster in Pennsylvania, owning and operating several furnaces and forges in the Juniata valley in its several counties, besides ironworks in Bedford, Cambria, Westmoreland, Indiana, Lancaster, Mercer, Allegheny and other counties in Pennsylvania, as well as in Wheeling, Virginia, now West Virginia. He died at Marietta, Lancaster county in 1854. In 1832, in Huntingdon county, which then included Blair county, there were eight furnaces, ten forges, and one slitting and rolling mill, in operation, each furnace yielding from 1,200 to 1,600 tons of metal annually. For many years after the beginning of the nineteenth century, Huntingdon and Center counties constituted the principal iron-producing district in the United States; Pittsburgh and Eastern cities manufacturing the iron which they supplied. The tariff of 1842 and the discovery that iron could be made with anthracite and bituminous coal, enabled other districts in the State and in the country "to wrest from these counties their iron sceptre." In 1850 there were in these counties and in Blair and Mifflin counties, forty-eight furnaces, forty-two forges and eight rolling mills, nearly all of which were in Huntingdon and Center counties. Gradually, in all of these formative, progressive years the course of the iron empire was working westwardly, as it is doing today, and it was not long after the middle

of the last century until the supremacy of Pittsburgh was grudgingly conceded in iron manufacturing as it had been in the manufacture of glass in its many varieties years before. Thither went the Lyons, Shorbs and Spangs, the Hemphills, the Shoenbergers, the Zugs, the Moorheads, the scores of other illustrious pioneers, to identify themselves with that colony of iron and steel makers that paved the way to the organization of the United States Steel Corporation, indeed, compelled it. By merit, which is synonymous with "Great Labor," has Pittsburgh been raised to its great eminence.

The first iron manufactured west of the Allegheny Mountains was made in Fayette county, Pennsylvania. F. H. Oliphant, of Uniontown, awards John Hayden, of Fayette county, the honor of having made "the first iron in a smith's fire" as early as 1790. Taking a sample on horseback to Philadelphia, he enlisted John Nicholson of that city in a scheme for building Fairfield furnace, seven miles south of Uniontown, on George's creek, and the two "then went on to build the furnace." Mr. Oliphant thinks this was the first furnace, the date of erection which he fixes at "about 1790," but Bishop says that the first furnace was built by Turnbull & Marmie, of Philadelphia, on Jacob's creek, between Fayette and Westmoreland counties, fifteen miles above its entrance into the Youghiogheny river. It was first blown in in November, 1790, and produced a superior quality of metal both for castings and bar iron, "some of it having been tried the same day in a forge which the proprietors had erected at the place." The date given here is correct, but the location given to the furnace is erroneous. Craig, in his "History of Pittsburgh" (1851), gives currency to the error in locating this furnace. It was built two and a half miles above the mouth of Jacob's creek, on the Fayette county bank, and called the Alliance iron works. The stack is still standing, but in ruins. The furnace was successfully operated for a number of years. John Holkar, the French naval agent at Philadelphia, was a silent partner with Turnbull & Marmie. The firm was dissolved August 22, 1793, Peter Marmie taking the works on Jacob's creek, and William Turnbull retiring. Craig gives an extract from a letter by Major Knox dated January 12, 1792, as follows: "As there is no six-pound shot here, I have taken the liberty to engage four hundred at Turnbull & Marmie's furnace, which is now in blast." Mr. Oliphant says: "I find by my father's books that he and his brother Andrew (John and Andrew Oliphant) bought a half interest in Fairfield in 1795, the parties carrying it on six months alternately for a few years. It then fell into the hands of J. and A. Oliphant." This proves that the furnace was built before 1795. Hon. James Veech says it was built in 1792. On the 29th of March, 1871, Mr. Veech published in the "Pittsburgh Commercial" a communication concerning the early ironmaking in Fayette county, from which we quote the following notice of the pioneer, John Hayden:

In the spring of 1789, John Hayden, who had lived in the red-ore iron region of New Jersey, hauled over the mountains from Hagerstown to Brownsville, Fayette county, a four-horse wagon load of goods for Jacob Bowman, who had come from the former to the latter place in 1787, at which he was a prominent merchant and citizen for a half

century. Hayden was nearly a month in making the trip, hauling 2,100 pounds at \$3 per hundred. Pleased with the beautiful valley at the western base of the Laurel Hill Mountain, the last of the chain of the Youghiogheny, and tired of teaming, he resolved to settle in "the West," and at once removed to near Uniontown. He soon bought out a settler near to where is now Fairchance Oliphant's iron works, and fixed his abode upon it in the spring of 1790. On the land was a log dwelling, not yet chunked and daubed; and as winter approached, Hayden took himself to stopping the interstices. For this he must needs have mortar, which he thought could not be well made without lime or calcined oyster or clam shells. As the latter could not be had, he looked around for limestone. In gathering what he supposed was limestone from the bed of a stream, he gathered unwittingly "blue lump," iron ore, so unlike the Jersey that he never suspected the cheat. He made up a pile of it to burn with wood, and after supposing it well burnt, plunged lump after lump of it into the water and found it wouldn't slack, and that it was as heavy as when he took it out from the run. Coming to the conjecture that it was some new form or color of ore, he resolved to test it. The expedient was an improvised furnace upon a blacksmith's hearth; but none of the smiths of the neighborhood would entertain the experiment. Having a Jersey acquaintance, a smith, in the vicinity of Connellsville, he had reason to resort to him. He had faith enough in the lumps to allow the experiment on his hearth. After long and repeated efforts at heating and hammering, the result was a piece of iron, as Hayden used to say, "about as big as a harrow-tooth." Elated with his discovery, Hayden put his harrow-tooth and some of the ore in his saddle-bags and rode off to New Jersey to enlist some of his iron acquaintances in the project of building a furnace and forge in Fayette county. None of them would join him in the enterprise. He came back to Philadelphia, where, after his discovery became known, he succeeded in securing the favor of the celebrated John Nicholson, then State Comptroller, and in the zenith of his fame and speculations which were ultimately so disastrous to himself and the finances of the Commonwealth. Nicholson soon after joined him and thereupon "took up" large tracts of land in and near the base of Laurel Hill, embracing the territory of Hayden's "blue lump discoveries." Hayden about 1792, with the aid of Nicholson, built a little furnace called Fairfield, near to where is now Fairchance; but his patron went down and John Hayden followed; and in a few years the father of F. H. Oliphant succeeded to his furnace and possessions. It may be set down as certain that John Hayden in 1790 made the first iron west of the mountains. But his furnace was not in operation until after others, profiting by his discovery, had built a furnace and begun the manufacture of castings.

Union furnace, now Dunbar furnace, was built by Colonel Isaac Meason, on Dunbar creek, four miles south of Connellsville, in 1791. The tradition is preserved that Union furnace was put in blast in March, 1791. We have already stated that Turnbull & Marmie's furnace was put in blast in November, 1790. Union furnace was succeeded by another and a larger furnace of the same name, built near the same site by Colonel Meason and Moses Dillon. Another early furnace was Fairchance, six miles south of Uniontown, on George's Creek, built by John Hayden, William Squire and Thomas Wynn, in 1794. It was rebuilt two or three times, and kept in operation until 1873. The forge was rebuilt two or three times about 1794. Another of Colonel Meason's enterprises was Mount Vernon furnace, on Monte's creek, eight miles east of its mouth, built before July, 1800, as appears from an old advertisement. In 1801 it was rebuilt, as appears from an inscription which is yet preserved. The stack was built of large blocks of sandstone, and is still standing. It is thirty-three feet high and eight feet wide at the bosh. The furnace was last operated in 1824.

Laurel furnace, on Laurel run, near Union furnace, was built by Mockbee & Wurts before 1800, and subsequently rebuilt by James Paull

on another site. The firm also built Hampton forge, to work up their pig metal of Laurel furnace. In May, 1800, John Ferrel as manager, advertised for sale castings, "neat, light and tough," at \$100 a ton; also bar iron. He expected soon to have some rolled iron, nail rods, and cut nails, the latter at eight cents a pound.

Redstone furnace, three miles east of Uniontown, was built in 1800. Joseph Huston was one of its first owners, and was followed by his nephew, Judge John Huston, and afterwards John Snyder. A forge on the headwaters of George's creek was owned by Thomas Lewis and Philip Jenkins in 1800, when it was advertised for sale by the sheriff. Spring Hill furnace was built in 1805 by Robert Jones, and afterwards fell into the hands of Jesse Evans. Mary Ann furnace, nine miles from Uniontown, was built by Richard Lewis in 1800, and in 1818 was bought by Joseph Victor, who lived on the premises in 1877, at the age of about ninety years. He rebuilt or repaired the furnace, and changed its name to Fairview.

Other furnaces were built in Fayette county early in the 19th century, among them the following: Pine Grove, eleven miles from Uniontown, built about 1805, and owned in 1857 by Basil Brownfield; Mount Etna, one and a half miles above Connellsville; Centre, nine miles from Uniontown, on Dunbar creek; Fayette, twelve miles from Connellsville; Little Falls, twelve miles from Uniontown, by Nathaniel Gibson; St. John's, built by James Paull, eight miles from Connellsville. There was a forge at Little Falls as early as 1809. Breakneck, at Findley furnace, was built about 1826, four miles northeast of Connellsville. In 1805 there were five furnaces and six forges in Fayette county. In 1811 there were ten blast furnaces, one air furnace, eight forges, three rolling and slitting mills, one steel furnace and five trip-hammers. The steel furnace was owned by Morris Truman & Co., at Bridgeport, adjoining Brownsville, and made good steel. In 1816 Colonel Isaac Meason built a mill for puddling iron and rolling bars at Plumsock.

It will be seen that Fayette county was a great iron center at the close of the last and the beginning of the present century. For many years Pittsburgh and the Ohio and the Mississippi Valleys were almost entirely supplied by it with castings of all kinds, and with pig and bar iron. Long before 1850 however, the fires in most of the furnaces and forges were suffered to die out. In 1849 only four furnaces made iron. In 1876 the county contained five furnaces and one rolling-mill.

A furnace named "Mary Ann" was erected at a very early date about twenty miles from Uniontown, in Greene county, on the opposite side of Ten Mile creek from Clarksville, but was abandoned long before 1820. Hon. James Veech says that he remembers the ruins of it well. The stack was visible for some time after 1840. He has an advertisement by "Samuel Harper, agent for the proprietors," dated July 23, 1810, for its sale, naming it as "The Iron Works, late the property of Captain James Robinson." It was probably built about 1800. Gordon, in his "Gazetteer," (1832) says that "there were formerly in operation on Ten-Mile Creek a forge and furnace, but they have been long idle and are

falling to decay." Day, in his "Historical Collections," says, "a forge and furnace were formerly in operation near the mouth of Ten-Mile creek, but were suffered to decline." These references are clearly to Robinson's works. We think that Greene county has never had any other iron enterprise within its limits.

From 1790 to 1800 it is probable that twenty furnaces were built in Pennsylvania. One of these was located within about three miles of Pittsburgh, near the present suburb of Shady Side, but was soon abandoned. The first nail factory west of the Alleghenies was built at Brownsville before 1800 by Jacob Bowman, at which wrought nails made by hand were produced in large quantities.

The first wrought iron made west of the Alleghenies was by blooming the ore from the Fairfield mines, "blue lump," by John Hayden, one of the proprietors of the Fairfield furnace. The process was to burn the ore and then pulverize it by stamping very fine. Then it was placed in an open fire, 18 inches square by 15 inches deep, formed the stone, having a tuyere 5 inches below the top, one inch in diameter, supplied by blast from tubs, and waterwheel to drive the tubs, making a half pound to the inch; fuel, charcoal. Work was commenced by filling the open fire with charcoal; when lightened up fully applying the blast in the tuyere; then applying the pulverized ore with a shovel by putting it slowly above the blast, and as it melted the iron ran down below the blast, the cinder being drawn off, and when the space below the blast was filled up to the tuyere, being in a solid mass, it was raised out by a bar 100 lbs. in weight, and taken to a hammer weighing 500 pounds, driven by a water-wheel at the rate of from fifty to two hundred strokes per minute. The chunk was hammered into the bloom; then one end was heated in the same fire to a welding heat, and drawn into what was called an anchony. When some twenty or thirty of these were made, they then enlarged the fire to 20 inches square and 20 inches deep, and heated the bloom or large end, and drew it out under the hammer into bars of various lengths, from five to ten feet long, and various widths and thickness, ready for market.

When the furnaces got under way, and pig metal was being made, old-fashioned Dutch fires were made to work the pig iron into anchonies and draw it out into bars. Some ten or twelve of these forges were built up through the county by persons owning the furnaces, J. & A. Oliphant putting up the first two on George's creek, six miles below the furnaces, and called them Sylvan forges. These were all built alike,—four fires each, three for making the anchonies, and one a chaffery to draw them out into bars. All the furnaces and forges dropped off one by one until all were stopped in the county except Fairchance and Redstone, the latter going occasionally from 1832 to 1856. Fairchance, building a rolling-mill in 1834, supplied this whole section with iron, nails, etc., for twenty years, the only iron works in constant operation; also making the machinery castings out of the furnace iron, even the large fly-wheels. The steam cylinder and blast cylinder were brought from abroad

Rolling and slitting-mills, for the manufacture of nail rods principally, were established west of the Alleghenies soon after the first furnace and forge were built in 1790, but specific information is wanting. Cramer's "Pittsburgh Almanac" for 1812, says that in 1811 there were three such mills in Fayette county. The first rolling-mill of any kind west of the Allegheny mountains of which we can obtain exact information is described in the Almanac of 1813, issued in 1812, as follows: "Jackson & Updegraff, on Cheat river, have in operation a furnace, forge, rolling and slitting mill, and nail factory; nails handsome, iron tough." The Cheat river mill neither puddled iron nor rolled bar iron, but rolled only sheet iron and nail plates with plain rolls from blooms heated in a hollow fire and hammered under a tilt-hammer. The nail plates were slit into nail rods by a series of revolving disks. In reference to the Cheat river enterprise, Mr. Veech writes that its location was in West Virginia, on the road from Uniontown to Morgantown, about three miles south of the Pennsylvania State line, and eight miles north of Morgantown.

The honor of having erected the first rolling-mill at Pittsburgh is undoubtedly due to Christopher Cowan, an Englishman, who built a mill here in 1812; this mill had no puddling furnaces, nor was it built to roll bar iron. It was intended to and certainly did manufacture sheet iron, nail and spike rods, shovels, spades, etc. The same number of the Pittsburgh Almanac from which we have last quoted says of this enterprise: "Christopher Cowan is erecting a powerful steam-engine, 70 horse-power, to run a rolling-mill, slitting-mill, and tilt hammer; to make iron, anvils, sheet iron, spike and nail rods, shovels, tongs, spades, scythes, sickles, hoes, axes, frying pans, cutting knives, chains, plough irons, hatchets, claw hammers, chizzels, augurs, spinning-wheel irons, and smiths' vises; capital \$100,000."

The first rolling-mill erected west of the Alleghenies to puddle iron and roll iron bars was built in 1816-17 on Redstone creek, about midway between Connellsville and Brownsville, at a place called Middletown, better known as Plumsock, in Fayette county, and was undertaken by Col. Isaac Meason, of Union Furnace, who had forges at Plumsock. Thomas C. Lewis was chief engineer in the erection of the mill, and George Lewis, his brother, was turner and roller; they were Welshmen. The project was conceived by Thomas C. Lewis, and by him presented to Col. Meason. This mill was much more complete than Cowan's. Mr. Oliphant says that it was built "for making bars of all sizes and hoops for cutting into pails." He says further that the iron was refined by blast, and then puddled. It was kept in operation up to 1824, the latter part of the time by Mr. Palmer. A flood in the Redstone caused the partial destruction of the mill, the machinery of which was subsequently taken to Brownsville. In an interview with Samuel C. Lewis, of Pittsburgh, the son of Thomas C. Lewis, he states that his father and his uncle, George Lewis not only superintended the erection and put in operation the mill for which these honors are claimed, but that he himself as a boy assisted in rolling the first bar of iron, his uncle being

the chief roller. In addition to Thomas C. and George Lewis, two other brothers participated in the work of starting the mill and in the rolling of the first bar—Samuel Lewis, heater; and James Lewis, catcher. At the same time Henry Lewis, another brother, was a clerk in the office. Samuel C. Lewis was a boy of fifteen years, and "heaved up" behind the rolls. The mill contained two puddling furnaces, one refinery, one heating furnace, and one tilt-hammer. Raw coal was used in the puddling, and heating furnaces and coke in the refinery. James Pratt worked the refinery, and David Adams was the puddler. The mill went into operation in September, 1817. Mr. Lewis relates that his father and uncle, being skilled workmen and therefore prohibited by an English statute from leaving their native land, were compelled to smuggle their passage across the Atlantic. He further states that his father, before going to Plumsock, unsuccessfully endeavored to induce Eastern ironmasters to introduce puddling furnaces and rolls of bar iron.

It was extremely probable that at this mill was done the first puddling and that here was rolled the first bar iron in America. Careful inquiry in well-informed quarters fails to discover the existence in the United States of any rolling-mill to roll bar iron and puddle pig-iron prior to the enterprise at Plumsock in 1816. Ralph Crooker, of the Bay State ironworks at Boston, the oldest rolling-mill superintendent in the United States, insists that the first bar iron rolled in New England was rolled at the Boston iron-works, on the mill dam in Boston, in 1825, and that the first puddling done in New England was at Boston, on the mill dam, by Lyman Ralston & Co., in 1835. It is not known if any mill in Eastern Pennsylvania either puddled iron or rolled bars as early as 1816.

A patent was granted to Clemens Rentgen, of Kimberton, Chester county, Pennsylvania, as late as June 27, 1810, for a machine to roll iron in round shapes, proving that Cort's rolls had not then been introduced into the United States. Mr. Rentgen was a native of the Palatinate, now Bavaria, in Germany, and emigrated from the town of Zweibrucken in 1791, to about six miles from Phoenixville, where he purchased a forge on French creek. At Knauertown he built steel works, at which he undertook to manufacture steel; the steel works were not successful. His forge was continued, and to it he added a small rolling-mill. His various enterprises were known as "Pikeland Works," Pikeland being the name of the township in which they were situated. On November 17, 1796, he obtained a patent for "forging bolts and round iron," which he described as follows: "This machine consists of a strong platform, of a given size, in which are fixed two upright posts. In these posts is fixed an instrument going through the handle of a concave hammer or sledge, at the extreme end of which is fixed a cogwheel, whose cogs, operating on the level or handle of the said concave hammer or sledge, cause it to operate upon a concave anvil upon which the iron to be wrought is placed. The concavity is about one-eighth of the dimensions of that of the said hammer or sledge. This machine is set in motion by water or any other adequate power, by wheels operating upon the said cog-

wheel." On June 27, 1810, Mr. Rentgen obtained a patent noticed above for "rolling iron round, for ship bolts and other uses," which he thus describes: "This machine consists of two large iron rollers, fixed in a strong frame. Each roller has concavities turned in them, meeting each other to form perfect round holes, of from half inch to one and three-quarter inches or any other size in diameter, through which rollers the iron is drawn from the mouth of the furnace with great dispatch, and the iron is then manufactured better and more even than it is possible to forge it out. The force applied to the end of these rollers is like that to mills." The original patents of Mr. Rentgen have been preserved and shown by his descendant, Professor William H. Wahl, of Philadelphia. Mr. Rentgen made some use of his patent anvil and hammer, and before the patent in 1810 for his method of rolling iron, he built an experimental set of rolls which were replaced after the patent by a permanent set, with which he rolled iron as early as 1812 and 1813, some of which was for the Navy Department. It is not known that he ever rolled bar iron, and it is not claimed that he used puddling furnaces.

It is a curious fact, which may not be known to many of the present generation of American ironmasters, that pig iron has been puddled in this country with wood, as it is now at some places in Sweden; and by the term wood, charcoal is not meant. Prior to 1850, puddling with wood was done at Horatio Ames's works at Falls Village, Connecticut; and the Katahdin ironworks, in Maine, puddled with wood in that year. From 1821 to 1825 the Fall river rolling-mill in Massachusetts used wood in heating iron for nail plates in reverberatory furnaces.

Pittsburgh's phenomenal development of first, the manufacture of iron, and second, that of steel in America,—indeed, for the uses of the people of the world—is foundational of history, literature of all descriptions, dramatic effort, poetry, and of untold commercial jealousies and international intricacies that have at times threatened to throw out of balance the "scales of nations." Necessity, in the instance of Pittsburgh and its metropolitan manufacturing district, was the law and cause as well as the reason for this development. Sporadic discoveries of iron ores within this area in the first years of the settlement of the Ohio Valley, first stimulated effort, with scant satisfactory results, but persistence gradually made glorious the results of the experiments and labors of those who in a greater measure than any other of American pioneers made Pittsburgh the capital of the manufacturing world. It must not be understood and in no sense assumed that this triumph of toil and of time came readily and easily. It came into preliminary promise, now and then, very early, but the progress increased from the "snail's pace" to the limit of present-day production.

Iron and steel, in respective seasons, did rather more than serve the structural purposes of people; they suggested to people plans and problems for other ores of structural development that are world-inclusive and world-improving. They have under American initiative and intelligence gone farther toward democratizing the world and "making it safe for Democracy" than all other essential elements of civilization besides.

The nineteenth century meant more to humanity and made more for humanity than all of the centuries, however, multiplied and however measured. If it is true, as has been asserted by Wendell Phillips, that those conveniences and utilities we now have, fell out of the minds and hands of men in the retrogressive ages of men, it is just as much a triumph to know that man in this eventful century reasserted himself both personally and historically; that he was able again to fall into step with the tread of the ages and into tune with the music of time. A discriminating writer has accurately summarized it all, that is, what Pittsburgh means, in this tribute to its manhood:

The purpose is to speak of iron and steel, not in terms of ore, and tonnage and machinery, but in terms of working life. However ponderous the machinery, somewhere men are controlling its movements. However automatic a process, it is under the guidance of human intelligence. The glare of the fires, the tumult of the converters, the throb of the engines, are less wonderful, less difficult of comprehension, than the lives of the men who control and guide.

There is a glamor about making steel. The very size of things—the immensity of the tools, the scale of production—grips the mind with an overwhelming sense of power. Blast furnaces, eighty, ninety, one hundred feet tall, gaunt and insatiable, are continually gaping to admit ton after ton of ore, fuel, and stone. Bessemer converters dazzle the eye with their leaping flames. Steel ingots at white heat, weighing thousands of pounds, are carried from place to place and tossed about like toys. Electric cranes pick up steel rails or fifty-foot girders as jauntily as if their tons were ounces. These are the things that cast a spell over the visitor in these workshops of Vulcan. The display of power on every hand, majestic and illimitable, is overwhelming; you must go again and again and yet again before it is borne in upon you that there is a human problem in steel production.

There is one issue the strands of which run unbroken through all the complicated forces, indistinct at first, because uncertainly defined, but standing out finally clear and unmistakable—responsibility. However divided this responsibility may have been at different periods in the history of the industry, control now is in the hands of the employers. They can change or continue conditions at their will. And beside this issue is another and mightier one,—that of democracy.

Pennsylvania, now the first of iron and steel producing States, according to that eminent authority on the history of iron and steel, James Moore Swank, "was one of the last of the colonies to begin the development of its iron resources, but it was also one of the last of the colonies to receive permanent settlers. The Swedes and Dutch, who were its first settlers, holding almost entire possession of its territory down to the granting of Penn's charter of 1681, probably made no iron within its limits, although there is a tradition that the Swedes made iron at Tinicum in Governor Printz's time, from 1643 to 1653. William Penn in 1683 mentions in a letter, "mineral of copper and iron in divers places" as having been found in his province. In other letters he expresses the wish that the iron and other mineral resources of the province may be developed. In 1692 is found the first mention of iron actually having been made in the province.

In the Pittsburgh Almanac for 1819 the following account is given of an ambitious manufacturing establishment in Pittsburgh within the year 1818: "Rolling and Slitting Mill—a very extensive establishment under the superintendence of Joshua Malen, formerly of Valley Forge,

and whose talents will be an important acquisition to this section of the Union, has been made by the 'Pittsburgh Steam Engine Co.,' William Robinson, Jr., and Joshua Malen. At their rolling mill, which has two engines, each of 120 horsepower, will be manufactured bar, rolled and sheet iron." Our extracts from the Almanac are taken from its various pages verbatim. We cannot locate the above enterprise.

The Union Rolling Mill was the next built at Pittsburgh. It was located on the Monongahela river; was built in 1819, and was accidentally blown up and permanently dismantled in 1829, the machinery of which was taken to Covington, Kentucky. This mill had four puddling furnaces—the first in Pittsburgh. We think that it was also the first to roll bar iron. It was built by Baldwin, Robinson, McNickle and Beltzhoover. It is claimed that the first angle iron rolled in the United States was rolled at this mill by Samuel Leonard, who also rolled "L" iron for salt pans. On Pine Creek, on the site of the present works of Spang, Chalfant & Co., at Etna, Belknap, Bean and Butler, manufactured scythes and sickles as early as 1820, but in 1824 their works were enlarged and steam-power introduced for the purpose of rolling blooms. In 1826 the works were operated by M. B. Belknap. They afterwards passed into the hands of Cuddy & Ledlie, and were purchased by H. S. Spang, in 1828 to roll bar iron from Juniata blooms. A rolling mill on Grant's Hill was built in 1821 by William B. Hays and David Adams. It stood near where the court-house now stands. Water for the generation of steam at this mill had to be hauled from the Monongahela river. The Juniata Iron Works were built in 1824 by Dr. Peter Shoenberger on the site which they now occupy. Sligo's Rolling Mill was erected where it stands by Robert T. Stewart and John Lyon in 1825, but it was partly burned down that year. The Dowlais works, in Kensington, were built in 1825 by George Lewis and Reuben Leonard. In 1826 all these mills did not make bar iron; one or two rolled bar hammered iron in other forms.

The Juniata Rolling Mill was built on the lot extending from Robinson street along the west side of Darragh street to the Allegheny river, at the former outlet of the Pennsylvania Canal, by Sylvanus Lothrop, James Anderson, and Henry Blake, in 1826 and 1827. Mr. Blake sold his interest to Capt. William Stewart, and Lothrop, Anderson, and Stewart sold out their interest to John Bissell, William Morrison and Edward W. Stephens in 1834. The mill, having been constructed for the exclusive use of Juniata blooms, was extended by the latter firm to the manufacture of iron by the puddling and boiling process, and was the first boiling furnace erected in Allegheny county. Here too, was also erected the first coffee-mill squeezer, under the personal superintendence of the patentee, Burden, of New York. The manufacture of iron, nails and steel of the lowest grade was successfully carried on by the latter firm and their successors until the year 1859, when it was deemed advisable to dismantle the works. The machinery was sold to Reis, Brown, Berger and James Ward, and was removed to Niles, Ohio.

In the United States a rolling mill is understood to mean an estab-

lishment for rolling iron or steel, and it may have one train of rolls or many trains.

Clinton furnace built in 1859 by Graff, Bennett & Co., and blown in on the last Monday of October in that year, was the first furnace built in Allegheny county after the abandonment in 1794 of George Anshutz's furnace at Shady Side, a surprising long interval if we consider the prominence of this great iron center in the manufacture of rolled iron after its second large rolling mill, the Union, was built in 1819. This furnace was built to use coke made from coal from the Pittsburgh vein, but it did not prove to be good furnace fuel, and coke from the Connellsville region was soon substituted with great success. This success led to the building of other coke furnaces at Pittsburgh and in Allegheny county. Their aggregate production of pig iron in 1883 was greater than that of any other of Pennsylvania. This position of supremacy has since been maintained. The production of pig iron by Allegheny county in 1890 was greater than that of any State in the Union, Pennsylvania excepted. It amounted to 1,337,309 gross tons. Iron ore for the furnaces of this country is chiefly obtained from the Lake Superior region, but some native ores are used and also considerable quantities of foreign ores. About twenty years ago Missouri ores were used in large quantities. There are now twenty-six coke furnaces in this country, and many of them are among the best in the country. The best blast-furnace record that has been made in this or any other country must be credited to the furnaces connected with the Edgar Thomson Steel Works, at Braddock, Allegheny county.

Clinton Furnace is still in existence, situated on West Carson street, a short distance below the Pittsburgh and Lake Erie Terminal buildings. It was a small furnace with a single stack, 45 feet high and 12 feet bosh, having an annual capacity of 12,000 tons. It was built and operated by the firm mentioned, the partners John Graff and James I. Bennett. This firm owned and operated the Clinton Iron Works, adjoining the furnace, a rallying mill turning out the various kinds of commercial iron by the old time processes, heating, boiling, or puddling.

Pig iron manufactured from bituminous coke is claimed to have been first made as a regular product in the United States by F. H. Oliphant, at Fairchance furnace, near Uniontown, Fayette county, Pennsylvania, in 1836. Mr. Oliphant sent to Franklin Institution of Philadelphia samples of the metal produced and of the various materials used at his furnace. He did not long continue to make coke, and resumed the manufacture of iron with charcoal. William Firmstone was successful in 1835 in making good gray forge iron for about a month at the end of a blast at Mary Ann furnace, in Trough creek valley, Tod township, Huntingdon county, Pennsylvania, from coke made from Broad Top coal. This iron was taken to a forge two miles distant and made into blooms. We have been unable to verify the statement in French's "Iron Trade of the United States" (1858), that "coke was employed a few years before the Revolution in the manufacture of pig and refined bar iron." Undoubtedly, however, various attempts were made to use it

before the successful experiments of Mr. Firmstone and Mr. Oliphant were made. We have recorded an unsuccessful attempt to use coke at Bear Creek furnace in 1819.

In 1849 there were only four furnaces, which were classed as coke furnaces, in Pennsylvania—those of the Brady's Bend Iron Company, and they made no iron in that year. In 1835 the Cambria Iron Company built four coke furnaces at Johnstown, which were blown in successfully, and have been in almost constant operation to this day. In 1854, so slowly had the whole country progressed in the manufacture of pig iron from raw bituminous coal and coke, that the total production from these two kinds of fuel in that year was only 54,485 net tons, Pennsylvania making 29,941 tons; Ohio 15,000 tons; and other States 9,544 tons. In 1876 the make of bituminous coal and coke pig iron in the whole country exceeded that of anthracite, and was more than treble that of charcoal. In that year the production of pig iron was as follows: bituminous coal and coke, 990,009 net tons; anthracite, 794,578; charcoal, 308,649 tons; total 2,093,236 net tons.

The bituminous coal of Eastern Ohio and Western Pennsylvania was the first that was successfully used in this country in its raw state for the reduction of iron ore in the blast furnace. In 1843 Day writes that the coal in the vicinity of Sharon, without coking, "has been tried successfully for smelting iron in a common charcoal furnace." Doubtless only an experimental trial is here alluded to. The further history of the beginning of this branch of our industry is circumstantially and we believe correctly stated in the following extract from a pamphlet entitled "Youngstown, Past and Present," printed in 1875:

In July, 1845, Himrod & Vincent, of Mercer county, Pa., blew in the Clay furnace, not many miles from the Ohio line, on the waters of the Shenango. About three months afterwards, in consequence of a short supply of charcoal, as stated by Mr. Davis, their founder, a portion of coke was used to charge the furnace. Their coal belongs to seam No. 1, the seam which is now used at Sharon and Youngstown, in its raw state, variously known as "free-burning splint," and "block coal," and which never makes solid coke. A difficulty soon occurred with the cokers, and, as Mr. Himrod states, he conceived the plan of trying his coal without coking. The furnace continued to work well, and to produce a fair quality of metal. At the same time Messrs. Wilkinson, Wilkes & Co., were building a furnace on the Mahoning, at Lowell, Mahoning county, Ohio, intending to use coal from seam No. 1, on which they owned a mine near Lowell. The credit of making the first iron with raw bituminous or semi-bituminous coal, in the United States, belongs to one of these firms. An account of the blowing in of the Lowell furnace, on the 8th of August, 1846, may be seen in the "Trumbull Democrat," of Warren, dated August 15, 1846, where it is stated that to "these gentlemen (Wilkinson, Wilkes, & Co.) belongs the honor of being the first persons in the United States who have succeeded in putting a furnace in blast with raw bituminous coal." According to Mr. Wilkes, writing from Painesville, April 2, 1869, this furnace was run with coke several months, but at what time it does not state. It is admitted that David Himrod, late of Youngstown, produced the first metal with raw coal, about the close of the year 1845, and has continued to use it ever since. The friends of Wilkinson & Co., claim that it was an accident, and a necessity, while their works were built and intended for raw coal. In 1850 there were only four furnaces in the Mahoning valley and only seven in Pennsylvania (in Mercer county), which used raw bituminous coal when in blast.

The honor of having first used the iron ore of Lake Superior in a blast furnace is clearly due to David and John P. Agnew, brothers, proprietors of the Sharpsville furnace, at Sharpsville, Mercer county, Pennsylvania. This occurred in 1853, the same year

in which three or four tons of the ore were shipped to the World's Fair at New York. The ore used at Sharpsville was procured from the Jackson mine, the pioneer of all the Lake Superior iron mines, and was mined and shipped before the completion of the railroad to the mine or the building of the docks at Marquette. The following extracts from a letter which we have received from David Agnew gives the leading facts of the important experiment:

"I claim that D. & J. P. Agnew were the first to use Lake Superior ore in a blast furnace (at Sharpsville) and that the experiment was successful. The facts are as follows: A small amount of Lake Superior ore was brought from Lake Superior before the completion of the canal and locks at the outlet of the lake, at a heavy expense, merely for trial. The first small canal-boat load from Erie was by request brought to the Sharpsville furnace, and there used as stated. The second boat-load was intended to be left at Clay furnace but in mistake was brought on to Sharpsville, and the next day was reshipped back to Clay furnace. The Sharon Iron Company, owning and controlling this ore (the Jackson mine), had purchased the Clay furnace, and very naturally wished to try it in their own furnace. These two small boat-loads carried all the ore received from Lake Superior until the following year (1854), when our connection with the Sharpsville furnace had ceased. The quantity used by us was small, yet sufficient to establish our claim.

"Mr. Frank Allen, who was the manager of Clay furnace in 1853, has published a statement which corroborates the above in all essential particulars, but also shows that the Clay furnace was the first in the country to make the manufacture of iron from Lake Superior ore a regular business and a commercial success. This result was not accomplished until 1856. Mr. Allen says: 'On the last day in November, in 1853, Samuel Clark boated a load of said ore from the Sharpsville furnace to the Clay furnace landing. We put it through the furnace and sent the product to Sharon. The next season all the Lake Superior ore left over at the Sharpsville furnace was sent to us, and during the years 1854-55, and until August, 1856, we had used in about all 400 tons of Lake Superior ore—some of it alone, but most of it mixed with other ores, and up to that date the working of it was not a success. In October, 1856, we gave the Clay furnace a general overhauling, put in a new lining and hearth, and made material changes in the construction of the same, put her in blast in the fall, and in a few days were making a beautiful article of iron from Lake Superior ore alone, and this was then considered to be the first real and successful working of said ore in a blast furnace.'"

In 1856 Dr. C. W. Siemens, of London, England, gave his attention, in conjunction with his brother, Frederick Siemens, both were natives of Hanover, Germany, to the construction of a gas furnace for the manufacture of iron, steel and glass, also other products that require a high and uniform heat. They invented the Siemens regenerative gas furnace, which has since been largely adopted in Europe and in this country. In 1864 Emile and Pierre Martin of the Sireuil Works, in France, with the assistance of Dr. Siemens, erected one of these furnaces to melt steel, in which they produced cast steel of good quality and various tempers, and at the Paris Exposition of 1867 their product secured for them, a gold medal. The Messrs. Martin subsequently obtained patents for various inventions of their own which were applicable to the manufacture of steel by the Siemens furnace. The Siemens processes were first tried out in England, he himself erecting at Birmingham a plant in which the regenerative furnace was used in producing steel. These works were built in 1867 and are still in use, with satisfactory results.

On December 1, 1862, Park, McCurdy & Co., of Pittsburgh, sent Lewis Park, the manager of their copper mill, to England to study the

manufacture of tin plates. While there he visited Birmingham and saw a Siemens gas furnace and procured one of the Siemens pamphlets containing a full description of it. On his return home he called the attention of James Park, Jr., to the advantages of the furnace. Immediately after July 4, 1863, the erection of a Siemens furnace was commenced at the copper works. This furnace was for melting and refining copper, and was completed August 14, 1863; it worked well. It was constructed after the drawings contained in the Siemens pamphlet. In the fall of 1863 Mr. Park revisited England, and while there had an interview with Dr. Siemens. Soon afterwards the firm of Park, Brother & Co., built a Siemens furnace to heat steel, but it was not long in use. In 1864 James B. Lyon & Co., of Pittsburgh, built a Siemens gas furnace for making glass. The enterprise, although mechanically successful, met with an accident which suddenly brought it to an end. It is proper to state that the introduction into this country of the Siemens furnace by the above-named firms was accomplished in an irregular manner, without first obtaining a license from Dr. Siemens, who had patented his invention. The first Siemens gas furnace which was regularly introduced into this country for any purpose was built by John A. Griswold & Co., at Troy, New York, and used as a heating furnace in their rolling mill, the license having been granted September 18, 1867. The next gas furnace regularly introduced was used as a heating furnace by the Nashua Iron and Steel Company, of New Hampshire, the license granted September 26, 1867. The next was built by Anderson & Woods, of Pittsburgh, for melting steel in pots, license dated November, 1867. About 1869 the Lenox plate-glass works in Massachusetts also built a Siemens gas furnace. All of these furnaces gave satisfaction.

The first open-hearth furnace introduced into this country for the manufacture of steel by the Siemens-Martin process was built in 1868 by Cooper Hewitt & Co., proprietors of the works of the New Jersey Steel and Iron Company at Trenton, New Jersey. The building was commenced in the spring of 1868, and in December of the same year it was put in operation.

The first successful application in this country of the Siemens furnace to the puddling of iron was under the direction of William F. Durfee, at the rolling-mill of the American Silver Steel Company, at Bridgeport, Connecticut, in 1869. Prior to this an unsuccessful attempt was made to accomplish the result at the Eagle rolling-mill of James Wood & Company, at Saw Mill run, near Pittsburgh.

On May 1, 1877, there had been built in this country 187 Siemens gas furnaces for use in the manufacture of steel and of iron and steel products—88 in Pennsylvania; and 35 used in the production of crucible steel, 30 of which were in Pennsylvania, and 21 used in the production of open-hearth steel, of which 5 were in Pennsylvania. In 1876 there were produced in the United States 21,490 net tons of open-hearth steel, of which Pennsylvania made 7,547 tons.

Experimental works were erected at Pittsburgh in 1877, by Messrs. Park, Brother & Co., in conjunction with Messrs. Miller, Metcalf &

Parkin, for the manufacture of wrought iron by a direct process invented by Dr. Siemens, and successfully tested by him at his experimental works at Towcester, England. The process embodies the application of the Siemens gas furnace.

The foundry of Joseph McClurg was erected in 1805, some claim 1803-4, and steam engine works in 1808-10, the McClurg enterprises marking the inception of iron making in Pittsburgh. Factories in Pittsburgh in the fall of 1807 were McClurg's air-furnace, four nail mills, seven copper smiths, one brass factory, one bell-founder, one wire-weaving factory and many smaller establishments. The increasing years multiplied the factories, diversifying them as well, until 1836, when there were six iron manufactories and nine iron foundries "east of the Monongahela river," ten steam engine factories, three saw and axe factories, seven glass factories, six cotton factories, eight white lead works and very many smaller concerns, the annual business of the aggregation totalling nearly \$32,000,000. From this year forward, the city expanded in proportion to the expansion of its manufacturing concerns.

Prior to 1857-60, the decades, nay the years, were almost repetitive of each other, each showing the degree of exaltation or depression in iron manufacturing and sales. This immediate ante-war period (1861) shows the industrial resources as follows: 25 rolling mills, value of products, \$10,730,562; 26 foundries, value of products, \$1,248,300; one cannon foundry, \$40,000; 16 machine shops, \$836,300; seven boiler yards, \$305,000; four shovel and axe factories, \$823,742; two forges, \$224,500; seven chain factories, \$261,000; one railroad spike factory, \$250,000; three safe factories, \$116,000; and more than one hundred other factories the value of whose products, added to those given, aggregate \$39,022,435.

The War of the Rebellion served to give Pittsburgh manufacturers great opportunity for expansion, to meet necessities created by this great war, the expenses therefor being easily met by the profits realized. This war was also instrumental in opening the eyes of iron and steel manufacturers to the fact that future movement must be in conformity to the indicated future of manufacturing. Steel was sure to come to the front as the principal factor in the use of rails, both for railroads and street railways, as well in all kinds of structural work. Andrew Carnegie was already at investigation concerning this revolution in manufacturing, and intensely alert to the necessity of shaping his mills to meet the demands for this metal which was destined to become more world-wide in its uses and advantages than iron ever was. The inventions of Sir Henry Bessemer of England, and William Kelley, the American, solved this problem for the world, and thenceforth Mr. Carnegie was able to give to Pittsburgh her world dominance and fame, a distinction that she has since zealously maintained and jealously guarded. The disappearance of Mr. Carnegie as the head and front of local manufacturing expression tended merely to mark the change from the man to the corporate mastery of a great situation. This was sure to come, because it must be the logical issue of events in this particular, and it came at a time when Mr. Carnegie felt that it would be wise for him to

divest himself of the weight and worry of business cares and responsibilities. The change came the more agreeably to him in the circumstance that he made it absolutely upon his own terms and stipulations, enabling him to retire with all of the trophies and honors that inhere in a situation of the kind.

At this time Pittsburgh is the practical center of the activities of the United States Steel Corporation embracing as it does the works of the Carnegie Company, as well as the following companies: The American Sheet and Tin Plate, American Steel and Wire, National Tube, American Bridge, American Steel Hoop, with several of their subsidiaries. Pittsburgh has also the great independent Jones & Laughlins organization; the Crucible Steel Company of America; the Pittsburgh Steel Company; the Allegheny Steel Company; Duquesne Steel Products Company; the Oliver Iron & Steel Company; Koppers Company; McClintic-Marshall Company; Columbia Steel Company; Carbon Steel Company; Firth-Stirling Steel Company; besides hundreds of other large and small steel and iron producing concerns, all going companies and all contributing to the influence and importance of this supreme manufacturing city and community.

Pittsburgh is now in the third decade of its third century of manufacturing activities which were begun under conditions of discouragement, financial, commercial and physical, unparalleled in the history of the world, all of which accentuates and glorifies her triumph. Her manufacturers and Chamber of Commerce are taking steps to expand and extend its area of production and manufacturing influence both at home and abroad. The awakening of the world has been as much the work of Pittsburgh manufacturers as of the missionaries of mankind, although objectively accomplished, it has had its subjective results none the less effective and satisfactory. The present century, as in the instance of its predecessor, has had the benefits of a war, an event that is always instructive and, in its incidentals, constructive, to give it ideas and ideals that will engage its peoples for many years to come in improving and enlarging the arts of peace.

Pittsburgh, in this effort, is in a commanding position positively and potentially. Reconstruction, in its various elements, is already making drastic demands upon all of Pittsburgh's vast resources and these are being extended generously, but judiciously. It is an integer of the greatest political power on the face of the earth, the only one that is untrammelled and free to act to bring order out of the chaos that the World War left to the adjustment of humanity, which work must be equitably and righteously done.

Steel, that is the steel of today, came as the invention of an American, the son of a comparatively wealthy resident of Pittsburgh, late in the forties of the last century, when William Kelly, a thorough metallurgist, sat meditatively before a finery fire at the Shawnee Iron Works near Eddyville, Kentucky, when he saw a "white-hot spot" in the center of the yellow mass of molten metal. Mr. Kelly's astonishment was so great as to overcome him for a time because in this phenomenon he

recognized the fact of affinity between carbon and oxygen and knew that he was in a fair way to make cheap steel in incalculable quantities.

Some time before this event, Mr. Kelly was in the commission business in Pittsburgh but had abandoned this calling to go to Kentucky to manufacture a sugar kettle for which he had been awarded a patent. Opposed to slavery, Mr. Kelly had imported a number of Chinese laborers to work at his little furnace and iron mill and they proved themselves to be both capable and reliable. His kettles were an improvement upon those theretofore in use among sugar-makers and he found ready sale for all he could make, selling largely through the Cincinnati market. Mr. Kelly refined his iron by placing fifteen hundred pounds of pig iron between two layers of charcoal, which was set ablaze, the blast turned on and charcoal added until the iron became suitably refined. This process used up tons of charcoal and very soon exhausted the forest supplies near his furnace. He was soon compelled to cart his supplies seven miles, this charge threatening his early ruin unless he could remedy matters.

He was deep in meditation over this condition when the "white-hot" appeared in the molten mass. He was at once certain that he had arrived at a solution of his problem and became wildly jubilant. With the exception of the village doctor and two English employes at the furnace, none could be persuaded that Kelly's idea was tangible. He was jeered and hooted by all comers including some Western Kentucky ironmakers who gathered one day about his little furnace to see a demonstration of his theory. He filled the furnace with pig iron, the blast applied and a white heat resulted, to the confusion of his competitors and the wonder of the other spectators. A blacksmith seized a portion of the refined iron, chilled it and in a few minutes produced a finished horse-shoe which he threw at their feet. He took another piece of the metal and made it into nails and then fitted the new shoe to the foot of a horse. Almost in the twinkling of an eye pig iron had been made into a malleable iron. Mr. Kelly termed his invention, "pneumatic process" but locally it was known as "Kelly's air-boiling process." This was years before Mr. Bessemer had begun to experiment and after Ohio river steamboats were using boilers made from iron refined under the Kelly process.

His father-in-law, who was his endorser in the bank, did not believe in the new process and required him to abandon it or to pay him the money he had loaned him. Kelly could make no repayment and was compelled temporarily to suspend operations on his new invention. Cincinnati customers also cautioned him that they would accept none of his wares made from the new metal. Soon the ore beds from which his supplies came were exhausted and new ones were searched for. Meantime, he had made a converter and, with some friends, took this one night into the depths of a Kentucky forest to test his invention before friendly eyes. Defects arose and overcome from test to test until 1851 when he measurably conquered all difficulties and when, in 1856, he was told that Mr. Bessemer had obtained an American patent for his

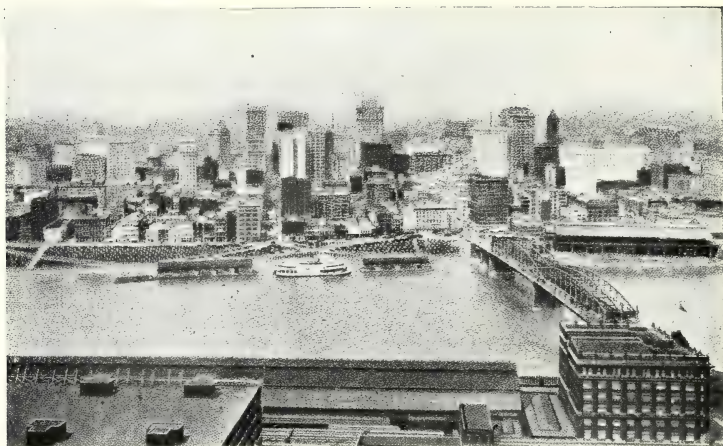
(Kelly's) process he turned upon and fought Bessemer and was awarded the patent himself. Kelly fell a victim to the "Panic of 1857." He was compelled to sell his patent to his father, who, having no confidence in his son's business ability, withheld its restoration and at his death willed it with other property to his daughters, "shrewd business women." They subsequently restored the patent to Kelly's children.

Mr. Kelly next turned to Daniel J. Morrell, general superintendent of the Cambria Iron Company at Johnstown, who afforded him every facility to perfect his process which he soon accomplished. When, after this was done and his patent had been returned to him, Mr. Kelly sold a controlling interest to Mr. Morrell upon a basis of royalties, himself returning to Louisville to manufacture axes, a business continued later at Charleston, West Virginia by his descendants. Mr. Kelly lived at Louisville until his death in 1888 at the age of 78.

The problem of leaving the exact quantity of carbon to harden the molten metal had not been solved by either Kelly or Bessemer, but this was overcome by Robert F. Mushet, a Scotsman, who merely suggested to pour out, or rather to burn out all of the carbon and then pour back the exact quantity required. Subsequent improvements were also made by Messrs. Holley, W. R. Jones, Reese, Gilchrist and Thomas. However, history repeated itself as in the instance of Christopher Columbus, Bessemer was unwarrantably and unmeritedly awarded the credit of the discovery. In 1870 both Kelly and Bessemer asked the United States Commissioner of Patents for a renewal of respective patents, Kelly receiving a renewal for seven years upon the allegation that he had not been adequately remunerated for his great invention while Bessemer's plea was refused. Persons interested in the renewal of the Bessemer patent raided the Patent office, but the decision stood. Steelmakers and railroads were the Bessemer proponents because if the Kelly decision remained they would have to pay higher royalties.

Pittsburgh manufacturers, among these James Park, Jr., said, "The world will one day learn the truth and in ages to come will crown William Kelly, the inventor of the Bessemer process, with a wreath of fame." Zerah Colburn, the English writer, also ascribes the honor of first discovery to Kelly, as do others, notably James M. Swank, who was the "greatest authority on the history of American Iron and Steel." Mr. Swank said, "Mr. Kelly claims the discovery of the pneumatic principle of the Bessemer process several years before it dawned upon the mind of Mr. Bessemer, and the validity of this claim cannot be impeached." Mushet gained "neither fame nor money for his solution of the problem that perfected the Bessemer invention, beyond receiving an annuity from Bessemer of three hundred English pounds and a tentative recognition of his contribution. He lost his patent by failure to pay the fees.

Modern concession is that Kelly was the real inventor of the process which made a commercial success by his machinery perfected by the Scotch firm of Galloway & Co., of Sheffield. Sir Henry Bessemer was the inventor of no fewer than one hundred and twenty patents. His



SKYLINE FROM MT. WASHINGTON



VIEW FROM PENNSYLVANIA STATION

earliest invention, one for stamping public documents, was, he alleged stolen from him by the English Government. His father was a Frenchman exiled to London by a "social explosion." The Bessemer converter is in general use at this time in the making of steel in America. It is described as a "huge pot twice as high as a man." It is swung on an axle, so that it can be tilted up and down. Although it weighs as much as a battalion of five hundred men, it can be handled by a boy. "About thirty thousand pounds of molten iron are poured into it; and then, from two hundred little holes in the bottom, a strong blast of air is turned on, rushing like a tornado through the metal. Millions of red and yellow sparks fly a hundred feet into the air."

"The converter roars like a volcano in eruption. It is the fiercest and most strenuous of all the inventions of man. The impurities in the iron—the phosphorus, sulphur, silicon, and carbon—are being hurled out of the metal in this paroxysm of fury. Sparks change from red to yellow, suddenly they become white, when an 'all right' is heard and the great pot is tilted sideways, gasping and coughing like a monster in pain. A workman feeds it with several pounds of a carbon mixture to restore a necessary element that has been blown out. Then it is tilted still farther, its lake of white fire is poured into a swinging ladle and slopped from the ladle into a train of huge clay pots, pushed into place by a little locomotive. The converter then swings up and receives another fifteen tons of molten metal, the whole process having taken only a quarter of an hour."

Such, in brief, was the origin of steel in its three-fold meaning. Kelly discovered the use of air as a fuel, Mushet added to this the method of adding carbon and Sir Henry Bessemer invented the tilter. Captain Ever B. Ward, of Detroit, as early as 1864, possessed himself of the Kelly and Mushet patents while Alexander L. Holley had bought the Bessemer patents. It was impossible for either Ward or Holley to operate without the coöperation of the other because of obvious infringement. Ward had associated with himself Zoheth S. Durfee, of New Bedford, Massachusetts, and Daniel J. Morrell of Johnstown, while with Holley were John F. Winslow and John A. Griswold of Troy, New York.

Superficially, the Ward trio seemed to have the advantage because the United States Patent Office and the Supreme Court of the United States had sustained the Kelly claims more than once, but after one year's resistance the Ward party turned over their patents to Holley for a thirty per cent interest in the consolidation. Captain Ward had made the first steel, under the improved methods at his furnace in Detroit in 1864 and had turned out the first American steel rails from his rolling mill in Chicago the ensuing year. He had been for many years head of the boating interests in the Great Lakes until past his meridian, when he sold his great fleet and began to build mills and furnaces in Detroit and Chicago. He was the first "Steel King."

Detroit therefore, enjoys the distinction of primacy in the manufacture of Bessemer steel in the United States, as a matter of fact ante-

dating Pittsburgh fully ten years. Troy succeeded to Detroit's ambition to become the American steel center but got no farther than the expressed aspiration.

When Captain Ward struck his colors to the Troy-Johnstown trio, the future of America was determined in the particular of steel production. Mr. Holley has been described as a man "with no capital but his genius," which, after all, is sufficient unto any day or any occasion. He was both inspiration and incentive to Messrs. Morrell, Durfee and Griswold; he stimulated effort from the Atlantic coast to the Mississippi and the Great Lakes and before long plants were smoking in Troy, Cleveland, Chicago, Detroit, Pittsburgh, Johnstown, Scranton, Bethlehem, Harrisburg and St. Louis. He infected the operators and operatives of these mills alike with the "virus" of his genius and the glow of his enthusiasm and was soon able to inspire belief all over the United States in the future of American steel.

Among the early converts of this "Prophet, Priest and King of Steel," were Captain William R. Jones (then of Johnstown), George Fritz, J. E. Fry, Robert Forsyth, Robert W. Hunt, D. N. Jones, Owen Leibert and P. Barnes. Of these Captain W. R. Jones soon forged to the front because Mr. Carnegie discovered him and took him to Braddock where he wrought his great results and earned his triumphs.

Captain Jones was born the son of a Welsh pattern-maker at Cata-sauqua, Pennsylvania, and at the age of ten years was at the mill near his home in the service of David Thomas, the "father of the American iron trade," the man who built big furnaces instead of small ones and had introduced anthracite coal into America in the manufacture of pig iron. He ran away from home when eighteen, reaching Chattanooga, Tennessee, where he was married. Thence he went to Johnstown where he was engaged for eighteen years, leaving the Cambria to go to Mr. Carnegie. He was a brave soldier in the War of the Rebellion. While he was in his early residence of Johnstown, William Kelly came to the Cambria mill to prosecute work upon his invention but it is not of record that these two geniuses saw much of each other.

When George Fritz, manager of the Cambria works died in 1873, it was thought that Captain Jones would succeed him but the management, because of the exuberant nature of young Jones gave the position to Daniel N. Jones, who was very much astonished. Captain Jones said he "would straighten up, go somewhere else and show the Cambria Company what I can do." He kept his word to himself. He resigned, went to Braddock as superintendent, soon sent for many of his old associates and the combination threw itself into the scale against the world, especially the Cambria Steel Company. This effort was begun in the "Panic of '73," which was the severest test to Andrew Carnegie's fortitude that it ever withstood. At that time the United States was buying, not selling steel rails and the presidents of great railroads were still dubious of the claims of makers of the new rails. This dubiety began in 1861 and it was not until 1869 that crescent confidence in steel rails was measurably established.

Captain Jones set himself to make himself good. Quoting from the history of his very impressive experience at Braddock it will be seen how good he made himself: "Within fifteen weeks after his incumbency Jones turned out nearly twice as much steel as any one had made before with a similar equipment. This was well enough, but a year later he had made more steel in a week than the average plant had been producing in six weeks. While every one in the steel world was gasping at the news, Jones took a fresh grip and once more doubled his output, bringing it up to thirty-three tons a week. Several years before, John A. Griswold had made a bet with Mr. Holley that the Troy plant could not turn out fifteen hundred tons a month. He lost his money, but even Holley would not have wagered that any one could make fourteen thousand tons a month as Jones had in a plant of equal size. Holley had accomplished the impossible at Troy, but Jones had done nearly ten times as much. He had in one day poured out from his sputtering converters 623 tons, more than \$30,000 worth of steel. The river of gold was knee-deep and rising like a flood."

At that time the newspapers were not publishing the diurnal developments of the steel mills nor were the profits or gross sales divulged for the information of people and purchasers. Captain Jones' phenomenal productions were certain in very short time to bring down the prices of steel and steel rails. Progressive profits were along the years given as follows: 1875 (three months), \$41,970.06; 1876, \$181,007.18; 1877, \$190,379.33; 1878, \$250,000; 1879, \$401,800; 1880, \$1,625,000.

"In these figures we have the beginning—the small beginning of the immense Carnegie fortune and the five fold greater affluence of the Steel Trust," says a current commentator.

Mr. Carnegie offered Captain Jones an interest in the company which he declined, preferring, as he put it, a "big salary." "Very well," replied Mr. Carnegie, "we'll place you upon a level with the President of the United States in that particular."

Mr. Morrell upon the occasion of a visit to Braddock said to Captain Jones, "Well, Bill, I see that I hired the wrong Jones."

When the British Iron and Steel Institute met in 1881 a letter from Captain Jones was read by its secretary in which he informed the organization "that although England had sold the United States seventy-one million dollars' worth of iron and steel the year before, England is now second to the United States in the production of Bessemer steel. It is also far behind in methods of manufacture. I ascribe my successes to the five following causes: First, the employment of men, young and ambitious. Second, strong, but pleasant rivalry between different plants. Third, employment of workmen of different nationalities. Fourth, the eight hour day. Flesh and blood cannot stand twelve hours continuous work. Fifth, use of most up-to-date machinery."

It was also explained to the Institute that the steel output of the Carnegie Company was in gross tons (2,250 lbs.); that the variation was not more than one degree from the quality aimed at.

Six months later at a meeting of the same body Mr. Holley was

present as was Sir Henry Bessemer, when another letter was read from Captain Jones announcing greater increases in production. Mr. Holley pointed out that the average British iron-worker turned out four hundred and twenty tons a year while the average American worker turned out five hundred and fifty-five tons annually. "Our steel made quickly" explained Mr. Holley, "is of the same quality as yours made slowly. You increase your output by making more machinery of the same size while ours is increased by making a new machine. Of course, as my capital is invested in America, I regard these English habits with resignation, if not with cheerfulness." "The star of the steel empire had moved westward."

Among the pioneer iron manufacturers the following were officers in the armies of the Revolutionary War: Col. Ethan Allen, Gen. Philip Benner, Col. James Chambers, Capt. Robert Coleman, Col. Persifor Frazer, Maj. Gen. Nathanael Greene, Cols. Curtis and Peter Grubb, Gens. James Irvin, Gens. Thomas Johnson and William Lewis, Col. Isaac Meeson, Col. Nathiot, Gens. Daniel Morgan, Rufus Putnam, Col. Paul Revere, Maj. Samuel M. Reynolds, Capt. William Richards, Gen. Arthur St. Clair, Gen. William Alexander (Lord Sterling), Cols. Joseph Vaughn, William D. Wapples and Gardiner H. Wright. Many of these were Eastern and Western Pennsylvanians, others New York, New Jersey and New England officers. This is a Legion of Honor that has no counterpart in the history of the world and every member of it was in the iron business before and after the American Revolution.

Andrew Carnegie was by no means the American pioneer in the manufacture of steel. He had the genius to gauge the value of its future and the ability to select those men to develop its possibilities that made him "The Carnegie." He was the older son of a very poor Scottish family that reached this country in 1848 by sailing vessel. In his efforts to help to support his family he was successively bobbin-boy, furnace-stoker, telegraph messenger, telegraph operator, railway telegraph operator, private secretary to Col. Thomas A. Scott of the Pennsylvania railroad, in which advantageous position he was placed where he could buy small quantities of shares in express, sleeping car, oil companies, elevator companies, passenger railway organizations, bank stock and other tempting securities. At twenty-eight he was Col. Scott's successor in the superintendency of the Pittsburgh division of the Pennsylvania Railroad Company, meantime increasing his holdings in old concerns and buying small holdings in new ones. Probably in 1864 Mr. Carnegie bought from his friend Thomas N. Miller a one-sixth interest in the Iron City Forge Company for \$8,925, the other holders being Henry Phipps and Andrew Kloman. This company specialized in the production of axles, whose price had jumped from two to twelve cents per pound. At about the same time Mr. Carnegie organized the Keystone Bridge Company, in which, besides himself were Edgar Thomson, president, and Col. Thomas A. Scott, vice-president of the Pennsylvania Railroad Company, and others of the minor officials were stockholders. This company paid twenty-five per cent dividends from the time of its

organization. It was not the original concern to build bridges but, with its alliances, it soon became the most important company in the United States. Thereupon Mr. Carnegie resigned from the railroad company and devoted himself to the operation of his companies. Prior to the seventies the Kloman-Miller organization kept itself afloat with difficulty but soon weathered the gale, but it was not until Mr. Carnegie's return from Europe that the operators were able to fully disentangle themselves. As Mr. Miller was despondent he sold his holdings to Mr. Carnegie. Later, Mr. Miller described Carnegie's good fortune in re-establishing the business and the mill as "luck" but Mr. Carnegie declared it was both luck and foresight.

The United States occupied itself in 1868 and after in the general building of railroads, thereby stimulating the production of iron in great tonnage. Within the ensuing four years the mileage was about doubled. In the quest for customers for his several concerns Mr. Carnegie became one of the best salesmen in the history of steel. Later on when a strike occurred recourse had to be had to strike-breakers and one of these, John Zimmer, was able to show the "partners" the secret of constructing an improved platemill, and the original one in the United States was soon erected. The great slabbing mills in the Homestead works is an evolution of the Zimmer idea. Mr. Carnegie's success in business is owing mostly to his own intellectual incisiveness plus the industry and loyalty of his early partners, Miller and Phipps. To Mr. Miller he owes the invitation to enter the iron business and to Mr. Phipps the years of economic management and financial finesse that made for so much in early struggle in the affairs of the "partners."

His own initiative, however, in any enterprise in which he was interested must be regarded as the "majority of stock" always. In value of importance in personal contribution to Carnegie supremacy it is likely that Captain William R. Jones is far and away the largest item in the inventory of assets, with Schwab, next. Captain Jones had both practical and theoretical capacity of concurrent development, each immediately coördinating with the other. Schwab had both in a lesser measure, but he had sufficient for the purposes of his vocation and, what is even more valuable he has vision in even a larger degree than Mr. Carnegie himself. He is also an incomparable salesman and one of the most adaptable men in the world as the developments of the late World War will attest.

Henry Clay Frick came into this array of supermen in virtue of his demonstrated ability in the coke fields of Westmoreland and Fayette counties. Mr. Carnegie had bought the majority of his stock and was using the output of his coke ovens in his furnaces and mills and was impressed by Mr. Frick's obvious business acumen and versatility. Mr. Frick was in charge of operations of Carnegie's concerns when the Homestead Strike occurred in 1892, an event that Mr. Carnegie attributed to serious misjudgment on the part of Mr. Frick. At any rate, the friendliness between Messrs. Carnegie and Frick terminated in its more intimate meaning and some time later Mr. Frick transferred his transactions to New York to remain until his passing a short time ago.

Mr. Carnegie in the few decades of his manufacturing activities gathered around himself many able men upon the same principle that Napoleon surrounded himself with that imposing array of Marshals, in each instance, some of these were worthy of batons, others were found to be very ordinary mortals. In his autobiography he makes some fine ascriptions and attributions without descending into minute discriminations that would inevitably disturb posterity. This autobiography is a luminous literary legacy to the world at large and really gives to it the man himself "as in a looking glass."

The accumulation and assimilation of a very great number of plants, the erection of many others in the constructive years of Mr. Carnegie's eventful career, his manifold transactions, many of these extraneous to his business activities, his literary productions, his humanitarian and educational expenditures of time and money, his efforts in behalf of international peace, the erection of the "Peace Palace" at the Hague, his tours of the world are known by heart to present humanity. He had that interest in his fellows that springs from the masonry of poverty and that refined philanthropy that comes from personal intimacy with want and deprivation. In his benefactions he has suggested to others who have the promptings of benevolence and desire to help their fellow-men methods whereby these may be gratified. He has blazed the way for such for coming centuries.

As a Briton by birth, his avengement of the defeat of Braddock at Braddock's Field in 1755 was at least picturesque. He bought the battlefield and erected upon it the great Edgar Thomson Steel Works. Prior to this, Mr. Carnegie had resisted the importunities of his "partners" to engage in the production of Bessemer steel. At this time he was living in New York largely engaged in bond-broking at home and abroad. He had very successfully floated several issues for the Pennsylvania Railroad Company which had materially increased his fortune. Mr. Carnegie cautioned his "partners" that it would be well to await the issue in the development of the Bessemer process in the United States before undertaking "pioneering," as he called it. In the meantime when in Europe he heard much of the success of Bessemer steel and he was invited to witness its production. He also saw at Derby a steel rail fifteen years old and still in good condition. Later a more objective exhibit of production under fine auspices convinced him that in the future, world metal was to be steel, and hastening to Pittsburgh he became a member of "Carnegie, McCandless & Co. with a capital of \$700,000." By logical accretion the other mills were soon added to this mill and by 1900 the world was wondering.

Meantime Messrs. Thomson, Scott and other friends and coadjutors of Mr. Carnegie had passed away and the Carnegie influence in the great Pennsylvania system had diminished perceptibly. Mr. Carnegie was more sensible of this situation than all the others combined. These deaths did not find Mr. Carnegie helpless either in personal activity, mental resources or in influential friends. So rapid had been his progress in steel manufacturing that in six years after he had begun it at Brad-

dock he was the head of the business in America. He had increased his holdings in the new concern until he was the majority stockholder. From 1880 until 1900 he accumulated, with others, the material upon which is based the real "Romance of Steel."

In his new venture Mr. Carnegie found that it would be wise to be associated with as few "partners" as practicable. One by one he absorbed holdings until he was as early as 1880 very much in control.

It was not until 1882 that he realized that he had no coke ovens or coke territory, at least, comparable with his dependence upon this element of fuel. He bought control of the H. C. Frick Coke Company which gave symmetry and strength to his other enterprises as well as independence. This brought him in direct relation with Mr. Frick, whose judgment and methods of procedure attracted him and in 1889 he placed him in charge of his affairs. Mr. Frick gave his notes to Mr. Carnegie for five per cent of the stock of the Carnegie company and this stock soon cleared itself. Subsequently Mr. Frick bought six per cent additional upon the same terms but soon resold him five per cent.

Julian Kennedy, then as now the greatest of steel engineers, reconstructed and reestablished the Homestead Works upon an irreproachable basis, when Carnegie bought it and a few years later Charles M. Schwab made even a greater steel phenomenon out of the Duquesne works.

Henry W. Oliver, Jr., in business bravery and in business prescience, probably the peer either of Mr. Carnegie or Mr. Frick, had early made fortunate investments in Mesabe ore lands in the Lake Superior regions, was advanced, upon the recommendation of Mr. Frick, a half million dollars to develop his property, putting up as security five sixths of his stock and out of this deal came the independence of the Carnegie Company in the matter of ore resources. Later John D. Rockefeller leased his Superior holdings to Frick and Oliver, one of the conditions being that he should carry their ores from Lake ports to Lake ports. This agreement sent the ore holders into a panic and they made haste to sell out to Messrs. Oliver and Frick. Out of this panic came the Oliver and Carnegie interests with one hundred million tons of the best of the Superior ores, which Mr. Schwab estimated to be worth as many millions of dollars. The Homestead labor disturbance in 1892 disembarassed the Carnegie company of trouble with unions thereafter. Machinery so simplified mill conditions that there was no aristocracy of workmen because the "big" men's jobs had melted into the domain of the machine which wore out but never struck.

During the decade of 1890-1900 Carnegie operations concreted and compacted with amazing rapidity. Transportation difficulties multiplied and complicated until Mr. Carnegie began making arrangements for the construction of a railway system that in its inclusiveness would coördinate and coöperate with his various plants in such manner as to take care of all of their wants. He had made arrangements to parallel the Pennsylvania railroad, Pittsburgh to Philadelphia, and to build an immense tube works, when he was approached with an inquiry if he

would sell his steel company and its subsidiaries in their entirety. Mr. Carnegie replied that he had been willing since 1889 to dispose of his interests. This inquiry came from the Moore brothers, Chicago capitalists and promoters. He gave the Moores an option on the concerns for \$157,950,000 of which rather more than one third was to be paid in cash. He gave them a ninety day option for \$1,000,000 and sent them to see Messrs. Phipps and Frick, who indicated their willingness to join Mr. Carnegie in the sale. Mr. Carnegie increased the option to \$1,170,000 and received a check for this amount. He also signed the agreement to sell. It soon was known that both Frick and Phipps were members of the Moore syndicate which at once undertook to get together more than sixty millions in cash with which to swing the deal at the end of ninety days. J. P. Morgan and his associates declined to enter the combination upon any terms. The sudden death of Roswell P. Flower with a consequent slump in the New York Stock Market deranged affairs and Messrs. Frick and Phipps were hurried to Scotland to induce Mr. Carnegie to extend the time of the option which he very promptly declined to do. Of the million dollars paid, or rather \$1,170,000 by the Moores, Frick and Phipps for the option Mr. Carnegie retained every dollar, the \$170,000 being Messrs. Frick's and Phipps' share of the option money.

John D. Rockefeller, stimulated to action by the possession of untold acreage of ores in the Superior section, considered that he could profitably transmute these ores into finished products had he the ready-made furnaces and mills, and approached Mr. Carnegie to ascertain his idea of the price he should have for his great plant. Mr. Carnegie informed Mr. Rockefeller that he would transfer them all for \$250,000,000, half cash and half in five per cent gold bonds. Mr. Rockefeller went away sorrowful because he had imagined that Mr. Carnegie would be willing to accept a greater portion of the consideration in stock. Two offers for his business within a short time aroused Mr. Carnegie's quick instincts to the desirability of his property and it immediately took a new appraisal in his mind. In seven days it was worth a minimum of \$300,000,000. He offered it to the younger partners at this figure, half in gold bonds and half in stock, but after a careful consideration these partners were unable to agree to the purchase. Meantime he continued to consider the daily appreciating value of the Carnegie properties and soon informed his partners that they were worth \$500,000,000.

Returning to America he took for his text, "One profit from the ore to the finished product" and began in earnest to take steps to place his property upon a new basis of operation. He ordered seven eight-thousand-ton ore carrying vessels for operations in the Great Lakes; next he had an impressive corps of railroad surveyors at work upon routes from Pittsburgh to eastern tidewater; he had five thousand acres of land at Conneaut upon which he said he would build a twelve-million-dollar tube works; he also declared his intention of building a rod-mill in or near Pittsburgh and to defy competition in his other productions he would spend ten million dollars in expanding and improving his existing properties.

None of the interests threatened, that is, John D. Rockefeller in his freight-carrying vessels; the Pennsylvania Railroad Company in freight competition; the firm of J. P. Mogan and Company in their ownership of the National Tube Company; the American Steel and Wire Company in its exclusive trade, all felt that Mr. Carnegie had both the will and the means to do all he had threatened.

Other manufacturers, bankers and railroad operators visioned, in this attack on their contemporaries, reaction to them and their interests and for weeks consternation was in every face. One of the earliest to come to a recognition of the seriousness of the situation, after A. J. Cassat, president of the Pennsylvania Railroad Company, was J. P. Morgan. Each of these magnates felt that something must be done and that quickly. Henry Clay Frick recalled that in those days before he had become a "Carnegie Partner," Mr. Carnegie had menaced him with a caution that unless coke prices were not brought within the required Carnegie radius that he would establish his own coke production within Mr. Frick's territory (twenty thousand acres). A twenty-million-dollar steel plant at Sault Ste Marie was also projected as one of the schemes of this sexagenarian Scot, while other plans, still uncovered, were darkly broached from day to day. British investors silently taking stock of American iron and steel plants, also added to the nebulousity of Carnegie movements, at this juncture in affairs. "Skill and Generalship" were items of common recognition, indeed, of common concession.

Mr. Frick quietly urged a combination of those vitally interested while Mr. Schwab disliked to swerve from his fidelity to Mr. Carnegie, but the imminence of fierce corporate competition brought him into action in favor of consolidation. At the banquet at the University Club in New York City in aid of "industrial peace" Mr. Schwab idealized the plan so persuasively and impressively to Mr. Morgan that, when Schwab and John W. Gates saw Mr. Morgan a few days later and amplified figures and situations the financier was convinced and converted and became the head and front of the scheme. Herbert N. Casson most happily summarized the issue of the all-night conference in the sentence: "Dawn and decision arrived together and Morgan told Schwab to go to Carnegie and to ask 'how much?'"

Mr. Carnegie and Mr. Schwab combined to set a new high estimate of the value of Mr. Carnegie's properties. Both knew that the net profits of the previous year were forty millions of dollars. "They were not selling so much physical property. They were placing a value upon a money-making mechanism that had required thirty-six years to construct."

Mr. Carnegie gave Mr. Schwab the following figures to present to his principals as his terms for selling: Five per cent gold bonds, \$304,000,000; preferred stock, \$98,277,120; common stock, \$90,279,040.

Assuming the preferred stock at par and the common at fifty dollars, meant a cash price for the Carnegie properties of \$447,416,640. Add to this the forty millions of profit for the year the total was \$487,416,640. It was suggested that each of the forty-five thousand employes of the concern had been capitalized at ten thousand dollars.

Judge Elbert H. Gary and other consolidationists, scores of them, were brought into consultation with Mr. Morgan. Mr. Schwab urged the purchase as matters of policy and profit and the slogan was "Buy out Carnegie." The Federal Steel Company was opposed; H. H. Rogers was not in favor and other hesitants balked, but all listened to Schwab who urged economies, improvement in steel trade, benefits to labor and the steadying of the steel trade. Morgan then assembled H. H. Rogers, Marshall Field, Elbert H. Gary, Norman B. Ream, H. H. Porter and D. O. Mills who gave it their approval and he notified Mr. Carnegie that the terms were accepted.

The magnitude, the stupendousness, the inclusiveness of this transaction amazed not merely the manufacturing world, but all classes of people in the world. The money paid to Carnegie, nearly a half billion of dollars, the immense amount involved in the capitalization of the consolidation, the personnel of the participants in the affair, the variety and extent of the interests involved, these and dozens of other details, either individually or in their incredible entirety, combined to dazzle and dazzle a common civilization much longer and more definitely than the daily astonishments that this civilization craves and daily anticipates. However, it is just as wonderful to reflect that relatively Mr. Carnegie and his associates were at the time of this sale drawing five per cent annually from the properties he was selling.

Mr. Carnegie is the outstanding figure in Pittsburgh development. He came to this city poor, ghastly poor, but undaunted and as ambitious as Lucifer, determined to win his way if hard work would win it for him. He delved and he saved and invested, in his breathing spells drinking deeply from the springs of information, few in those days, that he was able to find. That old man, James Anderson, who had a few books, welcomed the coming of thirsty youth like Carnegie and helped them in many ways to acquire that habit of studiousness and desire for mental improvement that had been his own under similar conditions. Mr. Carnegie's gratitude found expression in the erection of a splendid monument to Mr. Anderson at the library he gave to the city of Allegheny before it lost its name and identity in the city of Pittsburgh, indeed, it is fair to assume that both library and monument memorialize this gratitude. His own literary inclinations were as rampant as those of Carlyle and Jeffrey to which he frequently gave expression in the production of descriptions of his travels, his ideas upon economics, various phases of government and other vital subjects, all of them creditable and all readable under any circumstances.

Among his many contributions to the several agencies of civilization may be mentioned: Libraries, forty-two million dollars (fourteen hundred of them); Pittsburgh School of Technology, ten millions; Carnegie Institute, Pittsburgh, ten millions; fifty-one colleges, ten millions; Carnegie Foundation (pensions for retired professors) ten millions; Carnegie Relief Fund, four millions; Carnegie Hero Fund, five millions; Scotch Universities, ten millions; Temple of Peace (The Hague), a million and a half; Pittsburgh Museum of Art, two millions; Engineers' Club, New York,

one million; other donations, given and promised, seventeen millions; or a grand total of \$122,500,000. No other benefactor, excepting that other great American, John D. Rockefeller, has helped humanity and contributed to the advance of civilization as substantially as Andrew Carnegie and with the same sense of fine discrimination.

Commercialism and altruism are the contending elements in the bosoms of most Scots, the efforts of their lives being to give an equality of interpretation as well as of award in each instance. It is a historical fact that much of the wealth and more of the theology of the Christian Era have come out of Scotland. Mr. Carnegie's theology, never burdensome nor annoying, was substituted for an other ism, philanthropy, and this, in its various expressions he made his two-fold life work. From this view-point the story of his life and its activities is very simple.

Herbert N. Casson, who gave to literature the "Romance of Steel" "reduces the mystery of the great merger to its lowest terms very lummously." "From a business standpoint Carnegie was invulnerable. He had his own ore, coal, railroads, steamships and steel mills. In his commercial and personal interests, he stood entirely outside all associations of capitalists. He enjoyed to the full what his Scottish poet called the glorious privilege of being independent. It was an amazing feat to win a place absolutely alone in an age of interdependence—when even the nations were clinging to one another for support; but as a factor in the business situation his position was not to be tolerated. The stability and peace of mind of the American financial world demanded that Andrew Carnegie should abandon his throne."

This is true, but it is also true that when he doffed that crown, no other has donned it nor in the succeeding two decades has any other American manufacturer attempted to wear the crown of this great abdicator.

The death of Mr. Carnegie occurred so many years after his withdrawal from the activities of manufacturing that the shallow memory of the public could scarcely recall the man and his mission, not to mention his unparalleled, unprecedented position in the world, not as manufacturer alone, but as a philanthropist, as a litterateur, as a world-wide benefactor to mankind in every essential element of modern civilization. He had trod the way from poverty to prosperity and was acquainted with every milestone upon that way and, in his own personal perspective, desired to give to those who had to make a similar start, the facilities that did not exist in his youth and were still impossible to the masses of humanity. Before his death he made education, music, art, science, in a word the educational resources of the world, accessible to those to whom no highway had thus far appeared. His legacy to humanity, not merely his millions, in their various expressions, but his methods of accumulation which are still more valuable, is opportunity to those who desire to rise to similar heights by intellectuality reinforced by industry.

The United States Steel Corporation was chartered February 25, 1901, with the following named constituents with an aggregate capital of \$867,550,394:

<i>Company.</i>	<i>Common Stock.</i>	<i>Preferred Stock.</i>
American Bridge Co.	\$30,527,800	\$30,527,800
American Sheet Steel Co.....	24,500,000	24,500,000
American Steel Hoop Co.....	19,000,000	14,000,000
American Steel & Wire Co.....	50,000,000	40,000,000
American Tin Plate Co.....	28,000,000	18,325,000
Carnegie Steel Co.....	160,000,000
Federal Steel Co.....	46,484,300	53,260,900
Lake Superior Consolidated Iron Mines.....	29,424,594
National Steel Co.	32,000,000	27,000,000
National Tube Co.	40,000,000	40,000,000
Total.....	\$459,936,694	\$247,613,700

In addition the Carnegie Steel Company received bonds to the amount of \$160,000,000.

The American Bridge Company was a Carnegie concern which had had its beginning in the Lawrenceville district of Pittsburgh, and was one of its profitable constituents. In recent years an immense acreage had been bought at Economy, the historic site of that congregation of Germans which had come into America many years before and, after the traditional "three removals had settled upon a magnificent plateau above the north bank of the Ohio river fifteen miles below Pittsburgh. There they erected buildings for domestic, religious, agricultural, wine-pressing and other purposes peculiar to their organization, which was in the nature of a communistic society. For a time the operations of this organization were foresighted and vigorous. They established banks, financed promising factories, bought plentifully of the bonds and securities of railroads in the Pittsburgh district and were frequent investors in many local and neighborhood projects. They always possessed ready money which was never loaned at an usurious rate of interest but was always protected by every possible legal environment. The Pittsburgh & Lake Erie railroad was vitalized and controlled (in the matter of stock) until its purchase by the New York Central Railroad Company, which accounts this purchase the best it ever made.

Multiplying years, however, soon diminished the numbers of this society until it fell into the hands of one or two surviving members, who sold the tract to the bridge company which built the largest structural iron and steel producing factory on the face of the earth.

The Reid-Moore group was made of the American Tin Plate Co., chartered in December, 1898, which earned the first year of its life, \$3,600,000 or 20 per cent on its preferred capital, and in 1900 earned 32 per cent on this capital; the National Steel Company "was the maker of raw material for the other three companies." This concern owned mines in the Mesaba Range and was owner of a sixth interest in the Oliver Mining Company on a twenty year contract. It was chartered early in 1899 and earned approximately \$8,750,000 in its first year, or more than 32 per cent on its preferred capital, having a surplus and undivided profits of \$6,910,995 when it became a constituent of the Steel Corporation. Holders of both its common and preferred stock received for each share they held \$125 for each \$100.

The American Hoop Company, the third of this group, came into being after the National Steel Company, the result of a consolidation of nine companies making bars, hoops, bands, cotton ties and skelp, the new company having an annual production of 700,000 tons. It was earning only about 7 per cent but had a surplus April 1, 1901 of \$1,660,311. Its two classes of stock went in at par in the general consolidation.

The American Sheet Steel Company was born in 1900, and owned 164 sheet mills, 19 puddling furnaces and several open-hearth furnaces and bar mills. Its earnings from charter to April 1, 1901 were \$1,676,480 and its surplus \$705,757. This concern went in on the same basis as the Hoop company.

The National Tube Company dated its organization from June, 1899, by a merger of thirteen inferior mills, the 14 showing a capacity of about 850,000 yearly, the plants lying principally in the Pittsburgh district. Net profits in 1900, after depreciations, of 35 per cent were reported. Federal steel preferred stockholders received \$125 for each \$100.

The Federal Steel Company was scarcely inferior to the Carnegie Steel in size and importance, coming into existence in 1898 by a combination of the Illinois Steel Company, Minnesota Iron Company, Lorain Steel Co., Elgin, Joliet and Eastern Railway Co., and the Johnson Co., of Pennsylvania. "The steel companies it controlled brought to it several of the largest and best equipped concerns in the United States, being also the greatest producers, turning out great varieties of products. Among these were the Duluth & Iron Range R. R. Its earnings in 1899 were nearly \$9,100,000 or about 17 per cent on its preferred stock and in 1900 \$11,722,000 or nearly 22 per cent. Stockholders received \$110 for each \$100, preferred and \$107.50 for common.

The Standard Oil Company owned and controlled the Lake Superior Iron Mines which was organized in 1893, being merely a holding company for the ores and ore reserves, roughly estimated at 400,000,000 tons. The ownership of the Duluth, Mesabi & Northern railroad was in this same control, and it was also affiliated with the Bessemer Steamship Co., afterwards bought by the Steel Corporation. This concern earned nearly 58 per cent in 1900 and went in at \$135 for each hundred dollars of its holdings.

The American Steel & Wire Co., of New Jersey, was the result of a consolidation in January 1899 of the greater number of American wire mills. Its rod mill capacity was more than 1,100,000 tons and a wire nail capacity of over 10,000,000 kegs or over 500,000 tons with great ownings of ore and coking properties. This concern earned nearly 19 per cent in its first year on its common stock after a depreciation allowance of \$1,200,000 and in 1900 its earnings applicable to the common stock were \$4,202,129, or nearly 8½ per cent on the issue. Its preferred stock was exchanged on a basis of \$117.50 U. S. Steel preferred for each \$100, and its common stock on the basis of \$102.50 of Steel common for each \$100 of Steel & Wire.

The Carnegie Steel Company came of a "formal" merger of the Carnegie-Frick properties in March, 1900, with a capital of \$160,000,000 and

bonds to the same amount. All of the stock and all, excepting bonds to the amount of \$550,000, were taken over by the Steel Corporation, for which a total of \$492,006,160 was paid, as follows: for \$159,450,000 of Carnegie bonds an equal amount was paid in the bonds of the new organization, or rather exchanged; another \$144,000,000 new bonds was employed to take up \$96,000,000 of the Carnegie stock while \$98,277,720 Steel preferred and \$90,279,040 Steel common paid for the remaining \$64,000,000 Carnegie stock.

The Corporation secured in the purchase of the Carnegie-Frick combination the finest and most up-to-date steel mills in the world with the greatest output, together with 40,000 acres of coking coal lands with their various accessories of development of the Frick Coke Company, 11,000 coke ovens and other properties, as well as a controlling interest in Oliver Mining Company with its large ore holdings. It also took over control of the Bessemer & Lake Erie railroad properties, then the best equipped railroad in the United States, for its purposes of hauling coke, coal and products of the Carnegie Company to and from the Lakes. Because of Mr. Carnegie's belief of Pittsburgh's future and his undisguised affection for the community, he had contrived, by erection, construction and sagacious purchases to mass most of his holdings in the Pittsburgh District. He, himself, had everything to do with the establishment of Pittsburgh's present and, was, when the consolidations that set up the Steel Corporation were effected, circumspectly arranging for the future of the district. He "had made it the steel center of the universe and his plants there, at the time of their taking over, had an annual capacity of about 3,500,000 tons of steel ingots and over 3,000,000 tons of finished products.

To provide for the exchange of new stocks and bonds for the securities of the constituent companies the new organization, the United States Steel Corporation, was given an authorized capitalization of \$550,000,000 each in common and preferred stocks and \$304,000,000 in bonds or a total of \$1,404,000,000. The Morgan interests advanced \$25,000,000 to furnish preliminary working capital, as part of the syndicate which had financed the transaction, at the same time turning over to the corporation \$174,000 in securities of the merged companies which had come in by means other than exchange, and spent \$3,000,000 as syndicate expenses.

The syndicate that effected the corporation received for its services 648,988 shares of the preferred and as many shares of the common stock of the corporation. Such was the confidence in the new order of things that in nine months all of the old stockholders had exchanged their shares for those of the new organization, at that time less than 1 per cent of the old shares remaining outside, and of the authorized capital of the new concern, \$1,319,229,000 had been issued.

The property of the Corporation consisted of 149 steel works of various kinds with an annual capacity of 9,400,000 tons of crude and 700,000,000 tons of finished steel; 78 blast furnaces with a pig iron capacity of 7,400,000 tons; over 50,000 acres of coking coal; more than

1,000 miles of railroad lines and 112 lake traffic vessels, in addition to docks, natural gas, coal and limestone properties with vast ore acreages and other properties. The board of directors of the new organization was headed by J. P. Morgan and John D. Rockefeller, Elbert H. Gary, H. H. Rogers, Charles M. Schwab, Robert Bacon, E. C. Converse, F. H. Peabody, Percival Roberts, Jr., Charles Steele, W. H. Moore, Norman B. Ream, P. A. B. Widener, Judge J. H. Reed, Henry Clay Frick, William Edeborn, Marshall Field, D. G. Reid, J. D. Rockefeller, Jr., Alfred Clifford, C. A. Griscom, W. E. Dodge, Nathaniel Thayer and Abram S. Hewitt. Mr. Schwab was elected president, A. F. Luke, treasurer, Richard Trimble, secretary. Elbert H. Gary was elected chairman of the board, and Charles Steele, Percival Roberts and Edmund C. Converse were joined with him. The Finance committee was composed of Robert Bacon, chairman, H. H. Rogers, Norman B. Ream, Elbert H. Gary and P. A. B. Widener. The salaries of Chairman Gary and president were fixed at \$100,000 each.

The magnitude of this organization astonished and appalled the people of the United States and amazed the financiers and manufacturers of the whole world. Thousands of these unhesitatingly predicted its failure because of the variety and extent of its constituents while others claimed that it was top-heavy and therein too unwieldy for easy operation. The futility of figuring the issues of the years in almost any department of the world's basics has never been more stirringly illustrated than in this instance. Quite a few of the organizers lived to see the "billion dollar" corporation bulk into proportions of production and profit undreamed of by them in assaying, assembling, assimilating and accepting the various elements proposed for combination into this corporation. At their death they were conscious of the accuracy of the aims of American business men of whatever nature when directed at objects intended for the expansion of manufacturing, increasing the potentialities of brain and brawn and enhancing the financial and commercial enterprises of their common country. It is a monument alike to the constructive genius of Henry Clay Frick, Charles M. Schwab and Elbert H. Gary as it is to the financial foresight of John Pierpont Morgan, H. H. Rogers, Robert Bacon and P. A. B. Widener.

The management of the corporation in the afflicting years since its launching, the financial obstacles it has faced and conquered, the frightening years that were included in the World War and in sundry and divers other commercial, financial and manufacturing troubles has attracted the admiration and confidence of the entire financial and commercial world. Each element in its composition is managed separately by a president and a full roster of subordinate employes, the employes responsible to their respective presidents, the presidents to the President of the corporation, and he in turn to the Chairman of the Board and his associates. Intelligence and industry from top to bottom accomplish the economies that bring the vast profits that these various elements yield in succeeding years. Initially, the annual output of this great concern was more than 9,000,000 tons of steel while today the capacity is about

25,000,000 tons. The initial furnace capacity was quite a few thousands of tons under that of its steel capacity, but in the years of improvements in stimulating and compelling greater outputs the proportions are more nearly equal, while resources for turning out its own raw material have materially increased. It is rapidly nearing the point where it will be able to produce all of the pig iron it needs. Profits have been fabulously employed in tearing down and building up to further production until the directors are confident that physical values parallel stock pars in every item of representation.

Ethically, too, this corporation has commended itself to customer and competitor alike in its business and production methods, observing, as it has, the equities and comities religiously and steadfastly. It has in these particulars come to be regarded as an international institution long since having undertaken the service of the world in the inclusiveness of its products, adapted as they are, to the respective needs of the world's peoples.

Steel workers have, as a rule loyally coöperated with their employers in the effort to turn out fine products. Employers have sought to give to employes a wage in full relation to the measure of physical and mental output of employes with a result that a fine balance in mutual confidence has been maintained. Wages have been increased without intimation from employes several times, and large sums have been spent in improving the conditions in mills, factories, railroad yards, in fact in every department of production. Wages have not been reduced when, ordinarily, it was expected, indeed, discounted and "big" times have invariably brought "big" wages. It is said that of the many stockholders in the great corporation, more than 150,000, fully one third, are on its pay-rolls. This stock has been sold to workmen on easy installment plans. Incentives to loyalty and supreme exertion, insofar as the Carnegie concerns are involved, came from Mr. Carnegie himself who held out prospects of both profit and promotion to his men at all times. Conspicuous among these beneficiaries may be mentioned the names of Captain William R. Jones, whose inventions and suggestions were foundational of Carnegie successes and who died a martyr to his fidelity to Andrew Carnegie; Charles M. Schwab; the Dinkey brothers; William E. Corey; William L. Abbott; Julian Kennedy; D. M. Clemson; W. W. Blackburn; D. G. Kerr; Azor R. Hunt; Thomas Morrison; George Lauder; F. T. F. Lovejoy; W. P. Shinn; James Scott; Senator L. C. Phipps; Homer Lindsey and scores of others who rose from the pay-roll to be millionaires. Thus the Carnegie initiative has been imitated and expanded into an area of beneficence that has been profitable alike to both employer and employe. However, many things that were dreams under the Carnegie régime have come to realities under the microscopic management of the Corporation and things that were undreamed of then have come to be valuable accessories to production today. There is no halt in the march of manufacturing; the workman in any department of a mill is apt to see in a minute an addition to or a subtraction from a machine or any of its parts that will revolutionize present methods and multiply products and profits unthinkable before this "intellectual flash."

The Corporation has not been blind to the importance of the purchase of manufacturing concerns that are calculated to increase production. These purchases have not usually been made in order to smother competition or to discourage it. The deal for the Union Steel plant at Donora, Washington county, Pennsylvania, "a million dollar concern," was made in 1902 in order to increase the output of wire rods and nails, together with the Sharon Steel Company at Sharon, Pa., a six-million dollar organization producing pig iron and steel ingots, the two plants coming to the Corporation at an actual cost of \$30,860,501. Thereby the Corporation acquired five blast and twenty-four open-hearth furnaces; two blooming and slabbing mills, four rod mills, two wire and nail mills, one skelp works, one tube, one plate, one tin-plate, and one sheet mill; a by-product coke plant of 212 ovens; two modern ore steamers; 4,740 acres of coking coal; 1,524 acres of steam coal together with the ownership of two mines and leases of another two mines in the Mesabi region with an estimated ore deposit of 40,000,000 tons. By the operation, Judge Gary reported, H. C. Frick centered his interests in the Corporation, he being also largely interested in the Union-Sharon companies.

Leading local and national features of this decade were the "panic of 1873," the "Riots of 1877" and the return to Specie Payments in 1879. The last named in its general relativity, was the only one of these great events that meant anything to either city or nation, the financial, manufacturing and commercial results and effects of the others being distinctly depressing, affecting injuriously as well as historically the very bases of local and general government. The cosmopolitanism of this country in that decade was not of a nature to imply a relation to the heredity that such a movement at this day would immediately suggest, in the case of the riots, because the "hordes of Europe" had not then been turned loose upon America. It was caused rather by a pseudo-economic proposition, a reduction of wages consequent upon the panic. This reduction, together with the imposition of additional labor, created a feeling of resentment that had its issue in a strike, first among employes of another railroad company in another city, the contagion extending to those of the Pennsylvania Railroad Company, mostly those in Pittsburgh. The employes had the intention to resist by striking, in order to contest the endurance of the employers, not to destroy property. The elements of the mob that were quickly collected came from all quarters and fire was struck when the company invoked the aid of the sheriff and later that of the Governor of the State.

The panic, on the other hand, a reaction from the "surfeit of the opulence" of the last five years of the preceding decade, included Pittsburgh in its general effects and its relation to the business of the whole nation. James T. Brady & Co., (local representatives of Jay Cooke & Co.,) and the Security Trust Company, succumbed September 22, 1873, the two in a way being interdependent, Mr. Brady owing the trust company a large sum which he could not pay. Successively, the Nation Trust Company, of which Robert J. Grier was cashier, an influential institution; Ira B. McVay & Co., private bankers, and others followed, and much

banking confusion and many complications resulted until things measurably reasserted themselves.

Pittsburgh's industrial energy was resumed to the full in 1879 and in 1880 was normal. This energy abates sometimes but has never been thoroughly weakened or impaired. Annually the area of world dependence upon the resources and the products of Pittsburgh increases so that the manufacturers are fairly independent of the local demands for support, although it must not be forgotten that the great majority of these products are going towards the maintenance of present development at home, and construction of additions to these, together with such new projects as are continually being erected all over the United States. Europe, Asia and Africa, as well as the islands of the world, are all undergoing repairs, reconstruction, reorganization, and are also doing much original work in the way of structural and bridge building, all of which requires very much of local products all of the time.

However, the "Greater Pittsburgh" really began with the adaptation of natural gas to general manufacturing, which has been complemented by electrical power until marvelous results both in dispatch and excellence of production have been attained. The acquisition of additional municipal territory is merely an incident of general development which is amply described in chapters devoted to this description.

Mr. Frick was already in the directory of the Corporation but had also interests in other concerns and the absorption of these enable him to give all of his time to the Corporation. Within the next eighteen months the properties of the Clairton Steel Company at Clairton, Allegheny county, Pa., was taken over by the United States Steel (it being in the hands of a receiver) for a cash consideration of \$813,850 and the guaranteeing of outstanding bonds of \$10,230,000 against the Clairton Company. With this acquisition came also that of a half interest in one ore lease in the Mesabi Range; about 20,000 acres of mineral lands in the Marquette Range and 2,644 acres of coke lands and working assets of approximately \$3,000,000. A later purchase was Troy Steel Products Company of Troy, New York. This concern had a capacity of 200,000 tons of slabs and skelp annually; also the Trenton Iron Co., operating a rod mill with a capacity of 18,000 tons. The Troy investment was unprofitable and was in service a very short time.

The \$25,000,000 advanced the corporation by the syndicate was soon found to be inadequate to its development and operation and, to realize the funds requisite a "Bond Conversion" plan was adopted whereby an issue of second mortgage bonds to the extent of \$250,000,000 was determined upon. Morgan & Co., headed a syndicate to furnish not less than \$80,000,000 in stock and \$20,000,000 in cash in exchange for \$100,000,000 of the proposed bonds, for which service the syndicate received four per cent on the bonds actually issued. Morgan received one fifth of the commission, or four-fifths of one per cent. Out of the proceeds of this conversion plan, it was proposed to pay off expenditures of the constituent companies made before the merger, amounting to \$15,000,000, and \$10,000,000 was needed to refund "what had been classified as 'purchase

money obligations.'". Structural additions and improvements to the amount of about \$15,000,000 were "deemed advisable" stock redemption of preferred stock to the amount of \$200,000,000 was also an incentive to issue the "Bond Conversion" securities. This proposition drew upon the directors press and public criticism and characterization of the severest description which continued until long after the affair had gone through the banks and subsequently through the courts. The footings show, however that when the obligations shall have been discharged in forty-eight years after their issue, savings aggregating nearly \$9,500,000 yearly will have been effected.

The roughnesses that marked early progress of the Corporation were soon smoothed out under the tactful policy of Judge Gary who gave equal attention to corporation and individual with reference to early coordination. Mr. Schwab because of bad health, resigned from the presidency and, following his suggestion William E. Corey became president, remaining in this relation seven years, in which great progress in every sense was made. When Mr. Schwab resigned, the executive committee was eliminated, Mr. Gary becoming chairman of the board, the new position created for him. He remains in charge of the affairs of the corporation, its incomparable head, if not its incarnation. Changes in the personnel of the directory have continued throughout its existence. Messrs. Morgan, Frick, Rogers, Widener, Hewitt, Ream, Field, Griscom and others of the originals have gone to "higher tribunals," while others have retired. James A. Farrell, a miracle of organization and trade development and control, succeeded Mr. Corey in the presidency in 1910 and has been annually reelected until the present day. Mr. Gary was elected chairman of the finance committee after the resignation of Mr. Bacon and the retirement of Mr. Perkins. Mr. Gary is "by the corporation's by-laws named 'chief executive officer in general charge of the affairs of the corporation.'"

Changes made in the make-up of the subsidiary companies have been the merging of the American Tin Plate Company with the American Sheet Steel Company as the "American Sheet & Tin Plate Company"; the Carnegie Steel, the National Steel and the American Hoop have been merged into the Carnegie Steel Co. The United States Steel Products Export Co. (the word "Export" being dropped later) was the most important innovation since the consolidation. Mr. Farrell is in charge of this concern also as he is in charge of the corporation's foreign business. The corporation in 1906 organized the Universal Portland Cement Company to take over and operate the plants of the Illinois Steel Company. Two new plants were started immediately, one at Universal, near Pittsburgh, the other at Buffington, Indiana. The output in the succeeding seven years aggregated 11,197,000 barrels.

The lease of the Hill ore properties, owned by the Great Northern and Northern Pacific railways companies in 1906 put the corporation of an area of 65,000 acres in the Mesabi Range, claimed to be an ore content of more than half a billion tons to the Great Western Mining Company, a steel corporation subsidiary. This lease gave the corporation to mine

the Hill holdings until exhaustion, or, at the corporation's option, until January, 1915, the operation of this option being contingent upon a two-year notice to be given before that date. The corporation declined to enter into the lease unless it should contain a provision for cancellation, and it later exercised this right, the directors at the close of 1912 serving notice of intention to abandon the lease in two years.

The volume of ore to be mined and royalties were to be on an ascending scale, the first year, 1907, the tonnage was 750,000, this to be doubled each year, or increased as much again until 1917, when the lessee should take out 8,250,000 tons, at which figure it should remain until ore exhaustion should take place. Royalties agreed upon were 85 cents a ton of dried ore with a metallic content of 59 per cent the first year and this price to be increased by 3.4 cents a ton each succeeding year until termination of lease. The contract also imposed the condition that the Great Northern railway should carry every ton of ore thus mined to the docks at Superior, Wisconsin, at a rate of 80 cents a ton. For each variation of 1 per cent above or below fifty-nine per cent metallic content the base price was to be increased or decreased by 4.82 cents a ton. This lease in its various aspects caused the corporation no end of annoyance and comment. Mr. Hill drove a hard bargain based upon putative necessity for the use of his ores, first asking a dollar minimum royalty and hanging to this sum for three years. Subsequently it was found that the ores did not measure up to expectations in metallic content, cost of concentration becoming too great in the finality.

The "Hill Lease" ghost had scarcely been banished ere the more substantial body of the Tennessee Iron & Railroad Co. acquisition came into view as a climax to some peculiar stock-juggling, shares shuffling and "high finance." This transaction ran the gauntlet of public and private comment, newspaper characterization, denunciation, administration and congressional investigation, and the general inquisition of the country before it, as in similar instances, fell below the horizon of curiosity. It was an integer, not an incident of the "Panic of 1907" and in its development and ultimate definition registered some of the most prominent financiers and manufacturers known to international finance, traffic and commerce. The affair was a dramatic development of the panic brought to a climax both because of and also in spite of the general chaos of the year. Intertwined with the events of this affair were those of the Knickerbocker Trust Company, the Trust Company of America, Moore & Schley and other lesser concerns caught in the whirlpool of reaction and either lost or rescued by the omnipresent and omnipotent J. P. Morgan and his associates in their efforts to balance both financial and general manufacturing conditions at that time. The Knickerbocker Trust was left to its doom but there the greatest crest of the flood was reached. Moore & Schley were intimately identified with the affairs of the Tennessee Coal, Iron & Railroad Company and had much of its stock as security. It was generally alleged that the real reason for the acquisition of this company by the corporation was the fear of the organization of a company with docks, vessels, railway lines and selling offices in the

Southern states and on the coasts of ocean and gulf. At the same time E. H. Harriman, at that time a cotemporary and competitor of James J. Hill, had given this company an order for a large tonnage of steel rails instead of to the United States Steel and this with other incentives, actuated the purchase of the stock that gave the corporation control. Again, the rumor of a consolidation of the Tennessee Coal, Iron & Railroad Company, the Republic Iron & Steel, and the Sloss, Sheffield Steel & Iron Company was generally rife and this gave additional incentive to hasty action. The last named was never in danger of entering this combine, but there was a strong probability of a union of the other two companies, their control being practically identical. Impressive ore holdings of the Tennessee corporation was another cause for such a move, besides the ownership of coal and limestone resources of unlimited values, but it was soon found that the metallic content of the ores was much below that of the ores of the north and their excavation and preparation were of greater cost and inconvenience. There is a general inequality between respective ores, especially in intrinsic worth and in general relation to finished products, that makes the Southern ores of greatly inferior desirability. John A. Topping, president of the Tennessee Coal, Iron & Railroad Company, was formerly president of the American Sheet & Tin Plate Company before its absorption, and a manufacturer of the highest type. A native of the Ohio valley, he had received his preliminary education in the mills of Belleaire, Martins Ferry and Wheeling and thus brought to the service of the Southern organization an excellent experience as valuable as it was varied. Under his management the T. C. & I. R. R. Co. had been able to come into prominence as a fine producer and as good property, almost abreast of its day. The event, however, clinched the conjecture that fear of competition was the actuating motive in forcing through the merger. The suggestion that the big corporation take over its sturdy Southern rival, came from Lewis Cass Ledyard through J. P. Morgan, was "enthusiastically received" and the preliminaries and the finalities hastened through with all possible speed. Judge Gary and H. C. Frick, the latter then a resident of Pittsburgh, two United States Steel Corporation directors met President Roosevelt Monday morning, November 3, having left New York by special train at midnight and Judge Gary represented to the President the status of conditions and urged the necessity of the merger. Besides the President and the proponents of the measure, Elihu Root and private secretary, William Loeb were present and auditors of the address of Judge Gary. Mr. Root, responding to a request from the President as the propriety of endorsing the merger, replied that an opinion from him as Secretary of State was scarcely within his province. "Satisfactory assurances" were given Messrs. Gary and Frick of non-governmental interference and ten minutes thereafter Mr. Morgan was apprised and was engaged in the consummation of the merger.

Mr. Morgan had managed the preliminaries with characteristic energy and consummate tact pending the return of the emissaries that evening, that all things were read for closing the deal. Moore & Schley

turned over to the corporation 157,700 shares of the Tennessee Coal, Iron and Railroad Co. and received therefor \$18,774,000 in second mortgage bonds of the corporation at a market value of 84. Subsequently the other shares of common stock were acquired at the same price by the corporation. George G. Crawford became president and under his excellent management the T. Coal, Iron & Railroad began to show slight profits but it has never been considered in the same class as its northern contemporaries.

Pittsburgh's individualism was by no means lost when the Carnegie Steel Company in its various elements was swallowed by the United States Steel Corporation, neither were the individual manufacturers of the "Steel City" and its great district lost in that maelstrom of mergers. There were great names and great men before Carnegie came to Pittsburgh and these names and their works persist. Pittsburgh remains the "Steel City," and will wear the name always because it earned the title when it snatched the fame from England when the nineteenth century was old but strong. Very few of the real resources of this district were absorbed by the United States Steel Corporation; indeed, only one name was lost from its scroll of fame. Andrew Carnegie was only one of the grand army of enterprising, farseeing manufacturers who visioned the advantages of the Ohio Valley, even as Washington visioned them a century before.

The complex of manufacturing in its many elements in this "Iron-Steel" city is the concretion of a century and a quarter of patience, of toil, of sweat, of blood and of up-hill work saturated with an endurance and confidence that really "passeth understanding." "Romances of Steel," "Authorized Histories of the United States Steel Corporation," and other kindred narratives, scarcely hint at those whose initiative and individualism, as well as industry, created this complex.

The Jones & Laughlin Steel Company is the second largest steel company and the largest independent steel company in America. In name and in intent it has preserved its individualism in a larger sense than any of its contemporaries and competitors in the United States. It was founded in Pittsburgh in 1849 by Jones, Lauth & Company, although the activities of Benjamin Franklin Jones in the new organization were not fully felt until 1852. Two years later James Laughlin became a member of the firm. The "American Iron Works," was the first denominative designation of the new concern, the reorganization under present title coming many years later. There was not a blast furnace in the city of Pittsburgh and its immediate environs at this time, the "pig" coming from the furnaces in the Juniata and other valleys east of the mountains. There were also furnaces of small production in the Allegheny mountains which gave almost all their product to the Pittsburgh manufacturers. The Eliza furnaces, built by Laughlin & Company, on the north side of the Monongahela river in 1860-61, were the second furnaces erected in Pittsburgh, then the best known type in the country. These furnaces were built almost directly opposite the works of the American Iron Works and boats were used to interchange materials until the con-

struction of the Monongahela Connecting railroad, which not only gave greater facilities to the Jones & Laughlin Steel Company, but has established inter-communication with every manufactory north and south of the Monongahela river.

Despite the development of the manufacture of pig-iron in America, it did not reach an impressive tonnage figure until 1872, when the total product of the United States aggregated 2,864,558 tons. In 1896 Pittsburgh alone turned out 2,061,269 tons. The erection of the Eliza furnaces gave initial impetus to the manufacture of coke in the Connellsville region which now furnishes the majority of the output for furnace use in the United States. The Jones & Laughlin interests were among the first purchasers of coal land in this section and are among the largest holders of these lands in the Monongahela Valley, in Fayette, Washington and Green counties. Later when natural gas was discovered, they bought and leased immense acreages in producing districts, drilled their own wells, laid their own pipe, and brought their supplies to their various mills before other competitors began to emulate their example.

Mr. Jones was always alert to the development and adaptation of devices to quicken and increase production in every department of his various factories and furnaces, the effect being large annual increases in outputs. Chemical laboratories and testing apparatus were among the early installations in the formative years of this company and these accessories to accomplishment have been annually amplified, the more so since the transition from iron to steel has transpired.

The content of the concern has increased as the years have come and gone until it bears small relation to the day of comparatively small beginning. The original plant on the bank of the Monongahela has spread until it covers most of the territory of the upper South Side from river to the plexus of tracks of the Pennsylvania Railroad Company used by its Monongahela Division, extending east and west from Thirty-fifth street irregularly to Fifteenth street. Among its present products are open hearth and Bessemer steel, steel bars, sheet piling, power transmission machinery, cold rolled steel, shafting, rope drives, concrete reinforce bars, steel wire nails, barbed wire nails, fence and special screw wire, steel wire nails, tinplate, railroad spikes, light rails and connections, steel mine ties, structural steel and plates.

The South Side open hearth plant of this company includes nine 200 ton tall but continuous furnaces, and seven stationary furnaces of approximately 50 tons capacity each. These, with the three ten gross ton converters, supply through the various blooming and billet mills, the seventeen finishing mills, hammer shops, foundries, etc., which, with the auxiliary mills and shop of the North Side, furnish a great variety of products, among which are those already described. The tall but Open-Hearth Department is said to be the finest of the kind in the country.

The Jones & Laughlin Steel Company's old works are situated in the city of Pittsburgh, on both sides of the Monongahela river, and its new works on the south bank of the Ohio river, twenty miles below Pittsburgh, the former site of the Eliza furnaces, coke ovens, and the Soho

works, and the South Side department; the latter at Aliquippa, the tin and wire mills, tube works, blast furnaces and steel works. The great ore beds of this company are in the Mesaba region of Lake Superior and the ore is handled from this section to railroad termini by the great ore fleet of the concern, which also carries hundreds of thousands of tons of coal and other freights from ports of the lower lakes to those of the upper lakes on the upward trip. Jones & Laughlin Company wrought wonders of production and transportation in the days of the World War, responding instantly to the demands of the United States and her Allies, those of the latter beginning before the former entered into the contest.

The Jones & Laughlin Steel Company of Pittsburgh, originally the American Iron Works, was organized in 1851 as Jones, Lauth & Company, the factory situated on the south bank of the Monongahela river, in what was known as "Brownstown," now a portion of the South Side, Pittsburgh. Prior to 1851, Mr. Benjamin Franklin Jones had been for years identified with S. M. Kier in canal transportation and in the forwarding and commission business, their theater of operations being the territory of the Pennsylvania Canal between Philadelphia, Baltimore, Pittsburgh and Lake Erie, East and West. Mr. Jones was born at Claysville, Washington county, Pennsylvania, on the line of the National Pike, the original venture of the National Government in internal improvement in the entire republic. He had, as a child become familiar with the immense intra-state and inter-state business carried on over this pike in conestoga wagons and never forgot the impressions he received in those formative years. When thirteen years of age he went with his parents into the very heart of the Beaver river valley of Beaver county, Pennsylvania, through which the Lake Erie branch of the Pennsylvania canal had been built and was thus privileged to note the differences in methods of transportation. When he had attained his nineteenth year he went to Pittsburgh full of strength, ambition and ideas, all of which attracted the attention of Mr. Kier, one of the largest of the canal transportation men along the canals. He was engaged as assistant shipping clerk at a nominal salary. Mr. Kier was daily more impressed by the great ability that young Jones showed in every particular of employment and gave him every encouragement. When Mr. Kier established his "Independent Line," he took the clerk into partnership that subsisted until boats were abandoned as intra-state carriers.

When the Pennsylvania railroad was chartered in 1846 Mr. Kier cast about him to invent and to construct a boat that might be used indifferently upon both water and rails and soon built what was known as a "section" boat, intended to be used on both canal and the new railroad but the abandonment of the canal when bought by the railroad company blocked its use in both instances. Messrs. Jones and Kier took over several iron furnaces and forges in Westmoreland county, prompted thereto by the beneficent operation of the "Tariff of '42," but before the end of the year the "tariff of '46" injuriously modified the terms of the former as to well-nigh ruin the iron business in America, and the partners were compelled to dispose of their holdings, but without loss. Five years

later he began operations in Pittsburgh with Mr. Lauth and others. His personal activities dated from the following year 1852 and continued without abatement until his death nearly a half century later. James Laughlin, his friend, joined the partnership in 1854, was a member until his death in the early eighties. The Monongahela Iron Works at Brownsville, Pennsylvania, were bought in 1853 by the new concern and operated at Brownsville for one year when they were dismantled and shipped to Pittsburgh to become part of the plant in that city. Other additions and adjuncts followed in rapid succession until the years of the Civil War, when the real resources of the new organization were demonstrated, more particularly when Congress enacted that tariff act that gave energy and strength and boundless encouragement to all American manufacturers. The effect of this tariff was to give to the people of the entire country a measure of confidence in the sincerity and sympathy of their legislators in the various branches of manufacturing that had for so many years required just such governmental interest and impetus, but had either been withheld or extended so cautiously and coldly as well as so sparingly as to chill general effort and to dampen national ardor.

Pittsburgh's real advance began in the sixties of the nineteenth century and reached its climacteric in the nineties of that century when the manufacturers of Great Britain yielded the palm to their American competitors. The Jones & Laughlin Steel Company was one of the strongest agencies in this great accomplishment. It had been one of the very earliest initiators of the movement and had annually contributed its aggregate of output in increasing tonnage to the millions that finally bore down the scale in favor of domestic production. When its chief local competitor was merged into the factories of the United States Steel Corporation, it headed the hosts of independent producers, where it has since remained.

The personnel of this corporation is not large in numbers but is distinctive. In the forty-five years of his connection, Mr. B. F. Jones was identified intimately with the development of every department and gave his attention to this development. He had no polytechnic and mechanical education with which to enter the concern as its head in 1852, but he had health, head, heart and hand in its every meaning and these backed by intense application and incessant industry, in which he was always joined by his partners and heads of departments, were able to conquer that success that came to him while yet a young man. His "sound sense and rare judgment" were compensatory always for defects in technical requisitions; the latter he was able to command at all times. He anticipated the mechanical needs of his mills and furnaces just as quickly, frequently more quickly, than the most astute of his competitors, and his various plants have always been the wonder and admiration of both these at home and of those European manufacturers who are drawn to America by reports and by results. He was always conversant with the nature and conditions of labor and made a profound study of its worth under every condition. He was ever willing to learn of the equities involved and to accord to labor the last penny of desert. He stood as

powerfully for wages when he considered them earned as he did against exaction when he was satisfied it was intended. In all wage conventions Mr. Jones was regarded as absolutely honest in his convictions by both manufacturer and man, and his courage of expression and conviction was always unquestioned as well as unquestionable. His prevision in the earlier years of his career soon detected that wages are paid out of capital and out of product, and should bear a certain relation to selling price. As a citizen, Mr. Jones was ideal in his loyalty to community and country. He was at the head of all in every movement to aid the government and to make his city the peer of any in local action and in this effort the course of Pittsburgh's citizenry in behalf of enlistment, production of national necessities, raising money for purposes outside of Congressional discretion and in concentrated effort to produce the last ounce of materials for war uses on and off battle fields, he was at all times at work himself and, at the same time stimulating his fellow-citizens and manufacturers to do their utmost to win the war. He, a Democrat, when the war broke out, immediately identified himself with the Republican party and died a devotee of its principles. The friend of James G. Blaine, he became chairman of the Republican National Committee in 1884 and gave unlimitedly of his time and means to elect Mr. Blaine, but unsuccessfully.

Mr. Jones' conduct of the campaign of 1884 was one of the most remarkable in the history of the Republican party. He had the coöperation of many of the ablest and most unselfish of the leaders throughout the United States, but the time-servers and luke-warms were either apathetic or recreant and by the end of the campaign were scarcely identified with it at all. Mr. Blaine's sterling Republicanism, his isolate individualism and his fealty to the party of his ideals and of his vision, his indifference to the jobs and chicaneries of the most prominent of the quasi-leaders, especially in New York and other Eastern States, made him the target of their wrath and the object of their opposition, most of it thinly veiled. Mr. Jones, to whom the both leaders and the party itself were deeply indebted for both personal and financial support in days and years of need and of advice, addressed himself to neutralizing the obstacles to Republican success and was measurably successful in certain quarters, but the jealousy and hatred of the Conklin adherents in the State of New York were implacable and found expression in losing him the State and the presidency. The conduct of that campaign was expensive, but it was wound up without recourse to the usual "debt-payers" of the party and closed with honor to the chairman of the National Republican Committee.

Mr. Jones was signally honored in December, 1884, by election to the presidency of the American Iron and Steel Association, in succession to the late Hon. Daniel J. Morrell, president of the Cambria Iron Company of Johnstown, who had for years been a representative in Congress and one of the greatest authorities upon taxation and tariff in the world. Mr. Jones' incumbency was no less successful and satisfactory than that of his predecessor.

Mr. Jones was married, in 1850, to Miss Mary McMasters, daughter of John McMasters, Sr., of Allegheny county, a member of one of the distinguished pioneer families of the county and of the West. One son, B. F. Jones, Jr., preliminarily qualified both theoretically and practically to succeed Mr. Jones, and several daughters survive him. His son has been prominent in both the manufacturing and political world, although declining the general activities incident to service in the latter, but intensely interested in the genius and life of the Republican party at all times. His activity in behalf of his country, both in his great works and in coöperation with the people of his city, State and Nation, was intelligent and incessant.

Willis L. King, vice-president of the Jones & Laughlin Steel Company, has been identified with it for fifty-two years in almost every element of its being. He is the veteran in official connection with the organization and the sole survivor of the earliest official and office list. Mr. King is at the head of the sales department, his supervision also extending to other departments in virtue of his inclusive information concerning the general affairs of this immense concern. He has been quietly interested in the development of Pittsburgh, not idly, however, and this interest has been prolific of many fine results. He was one of the founder's ablest accessories in the structural work of the Jones & Laughlin Company and looks with pride upon the several monuments to the enterprise and energy of that great manufacturer.

William Larimer Jones, son of the late Thomas Mifflin Jones, brother of Mr. B. F. Jones and for years his partner, is another vice-president and is in charge of the output of the company as general manager. He is the silent efficient official of the corporation who has in the last two decades almost completely reconstructed and rebuilt the plants, both within and without Pittsburgh and brought them to the maximum of efficiency they have reached.

The Crucible Steel Company of America was incorporated in July, 1900, under the laws of New Jersey to "manufacture and market crucible and open hearth steel and iron by and through its several companies." At the time of organization the company owned or controlled the following named properties, representing about ninety-five per cent. of the total output of crucible steel in the United States: Aliquippa Steel Company; Anderson, DuPuy & Company; Benjamin Atha & Illingworth Works; Beaver Falls Steel Works; Burgess Steel and Iron Works; Canton Steel Works; Consumers' Heating Works; Crescent Steel Works; Cumberland Steel and Tin Plate Company; Howe, Browne & Company (Limited); Park Steel Company Works; Sanderson Brothers Steel Company; Singer, Nimick & Company, Inc., Works; Spaulding & Jennings Company Works; Halcomb Steel Company; Norwalk Steel Company (later indefinitely closed down); Crucible Fuel Company; Pittsburgh Crucible Steel Company; Syracuse Crucible Steel Company. The authorized capitals of this company are \$25,000,000 common and the same amount of cumulative preferred. The officers are: H. S. Wilkinson, chairman; John A. Matthews, president; G. E. Shaw, vice-president

and treasurer; J. W. Dougherty and R. H. Illingworth, vice-presidents; H. F. Kress, secretary; J. M. McComb, A. A. H. Niebaum and W. R. Joralemon, assistant treasurers. The executive committee of 1920 was: H. S. Wilkinson, chairman; Gilbert M. Black, H. D. W. English, Nathan L. Miller, George E. Shaw and O. H. Wharton. The directors are Eversley Childs, J. W. Dougherty, R. H. Illingworth, G. E. Shaw, J. A. Matthews, H. S. Wilkinson, William Hamlin Childs, H. D. W. English, J. M. May, G. H. Singer, Hamilton Stewart, G. M. Black, E. L. French, August Hecksher, Nathan L. Miller.

The McClintic-Marshall Construction Company of Pittsburgh was incorporated in 1900 "to fabricate and erect structural steel." In recent years this corporation has acquired the Riter-Conley Manufacturing Company, a Pittsburgh concern building bridges, blast furnaces, gas holders, riveted pipe transmission towers, and structural work of all descriptions. This concern has immense plants at Leetsdale, near the western suburbs of Pittsburgh, and at Rankin (Pittsburgh), Pottstown and Carnegie, Pennsylvania. C. D. Marshall is president; H. H. McClintic, vice-president; W. S. Mitchell, secretary and treasurer; and these with R. B. Mellon compose the board of directors.

The Oliver Iron and Steel Company, one of the many organizations that came of the genius of the late Henry W. Oliver, was incorporated as a Pennsylvania manufactory in 1887 to make track, carriage, machine and bridge bolts, boiler and structural rivets, wagon hardware, telegraph and telephone pole line hardware and forgings. The mills of this company are in the South Side, Pittsburgh and have a capacity of one hundred and twenty-five tons per annum. The officers are: E. O. Read, chairman of board; Henry Oliver, president; Henry Oliver Rea, J. C. Rea, Charles Oliver, vice-presidents; Ralph Theophilus, treasurer; C. E. Black, secretary and buyer; John Jenkins, assistant secretary. The directory consists of J. C. Oliver, Henry Oliver, Henry Oliver Rea, T. J. Crump, A. N. S. Oliver, E. O. Rea, Charles Oliver and J. C. Rea.

The McKinney Manufacturing Company was incorporated February, 1902, to manufacture hinges, and in its mills in the North Side, Pittsburgh, turns these out in variety and quantity equal to any concern in the country. The brothers, William and James P. McKinney, Sr., were pioneers in this particular and their successors are their respective sons. The official list is: President and treasurer, W. C. Farr; vice-president, W. S. McKinney; J. P. McKinney, Jr., secretary; the foregoing and R. G. and R. L. McKinney, directors.

The McConway-Torley Company, a Pennsylvania corporation of 1889 manufactures at its great works in the northeastern section of Pittsburgh malleable and steel castings and open hearth ingots, couplings for passenger and freight cars at the rate of thirty thousand tons annually. The plant is equipped with six twenty-ton and three fifteen-ton open-hearth furnaces, one cupola of hourly melting capacity and eight annealing furnaces. William McConway, William McConway, Jr., and Stephen C. Mason are directors, and these with George W. McCandless are president, vice-president, secretary and treasurer.

The Allegheny Steel Company was organized in June, 1905, as the successor to the Allegheny Steel and Iron Company and four years later took over the Inter-State Steel Company and the Reliance Tube companies, the combination to make steel slabs, billets and sheets, sheet bars and plates, boiler tubes and steel castings; hot pressed works, and freight car oil box lids, etc.; the mills have an annual capacity of 160,000 tons. The officers are H. E. Sheldon, president; L. W. Hicks, vice-president; R. D. Campbell, secretary and treasurer, and these constitute a majority of the board of directors.

The Mesta Machine Company was incorporated in 1898 to take over the affairs and properties of the Robinson-Rea Manufacturing Company of Pittsburgh, which had had a successful career of more than sixty years, together with those of the Leechburg Foundry and Machine Company, incorporated in 1887. The new organization bought twenty acres of land adjoining the city of Pittsburgh on the south bank of the Monongahela river and thereon erected a group of great buildings in which are made gas and steam engines, condensers, rolling mill machinery, steam-hydraulic forging and bending presses, cut and machine moulded gears, steel castings, etc. George F. Mesta is president; F. E. Mesta, vice-president; H. F. Wahr, secretary; J. O. Horning, treasurer. This factory is one of the largest of its kind in the world.

Brown & Company, incorporated, was organized in 1891 with a capital of \$500,000 to operate the Wayne Iron and Steel Works, established in 1825 at Tenth street and Duquesne Way, Pittsburgh, Pennsylvania. This company came of the enterprise of James Brown, who, born in County Cavan, Ireland, February 10, 1780, who, after amassing before he was seventeen years of age more than three hundred pounds sterling in the linen trade, started for America to buy a home for his father's family. Stricken with ship fever on the voyage to the United States he was set ashore within the Capes of the Delaware and when he had recovered he was penniless. Mr. Brown found employment at Brooklyn and very soon recouped himself and with his brothers went to Pittsburgh in 1803, where they established themselves in the wholesale dry-goods business, which later fell to the management of James Brown's sons. Later on, after his retirement from this business, he founded the Wayne Iron Works, under the firm name of Miltenberger & Brown and this mill has prospered since its establishment nearly a century ago. His posterity has been in constant charge of the affairs of the mills. His eldest son, John H. Brown, early in his manhood engaged in the wholesaling of dry-goods in Philadelphia, from which he retired in 1865. He had inherited a large interest in the Pittsburgh iron business of his father and gave the operation of these works much of his personal attention. Later, his sons, J. Stuart and Henry Graham Brown succeeded to the general conduct of its affairs. Themselves and their children, together with James Neale, secretary, are still in charge of operation. Iron and steel specialties continue to be the products of these mills.

The Pressed Steel Car Company of Pittsburgh is a consolidation of the Schoen Pressed Steel Company and the Fox Pressed Steel Equip-

ment Company effected in 1899, the consolidation "comprising practically all of the pressed steel car manufacturing plants in the United States. The plants are in the North Side, Pittsburgh, and opposite these in McKees Rocks, adjoining the West End of Pittsburgh. The area covered comprises about one hundred and eighty-five acres on which are erected about fifty-seven acres of buildings, in which are made steel passenger and freight cars; trucks, bolsters, steel trucks, steel frames, and other specialties for wooden and steel cars. The annual capacity (1920) of these plants was seven hundred and fifty steam and street railway cars and forty-five thousand freight cars. This corporation also owns and operates the Koppel Industrial Car and Equipment Company. The American Vanadium Company has been manufacturing, mining and otherwise, dealing in products of ores and alloys in its Pittsburgh plants since 1906. It was originally in control of the Flannery brothers, James J. and J. R., but was recently taken over by the Vanadium Corporation of America. The smelting plants of the organization are near the southwestern suburbs of Pittsburgh, covering eight acres of land, upon which are erected thirteen buildings. The by-product of this concern is radium and this is the great majority of the world product. The gram presented to Madame Curie by certain citizens of the United States upon the occasion of her visit to the United States in 1921 was made in this plant. The executive committee of the corporation is J. L. Replogle, chairman; C. M. Schwab, E. R. Tinker, Joseph DeWyckoff and F. K. Sheesly.

The Pittsburgh Spring and Steel Company manufactures all descriptions of elliptic and coil springs for locomotive, passenger, freight, traction and inter-urban cars and for automobiles, machinery, valve, switch, governor, trolley, agricultural implements, and other purposes. D. C. Noble is president and treasurer, and H. A. Noble secretary. These gentlemen with S. F. Krauth, vice-president, and Drayton Heard and A. E. Braun constitute the board.

The Pittsburgh Rolls Corporation, capital stock \$2,500,000 was organized in 1917 to manufacture chilled and sand iron Phoenix metal rolls for Pittsburgh and other rolling mills and has its plant in the Butler street section of the city. It is equipped with four 30-ton, one 18-ton and one 10-ton air furnace, one 60-inch, two 48-inch cupolas and two new open-hearth furnaces of 15 and 25 tons capacity respectively.

Spang, Chalfant & Company is another of the earlier independent organizations that were prominent and influential in the Pittsburgh district in the formative days of this manufacturing city. The Spang family, immigrants from Holland in the eighteenth century, settled in Berks county, Pennsylvania, where Charles F. Spang was born in 1809, the descendant of Hans George Spang, the founder. Frederick Spang became the purchaser of the Oley furnace, built in 1772, at Semple, Berks county, and at his death this furnace was owned and operated by his son, Henry S. Spang, until the completion of the Pennsylvania Canal, when he removed to Etna, Huntingdon county, Pennsylvania (now Blair county) and established an iron works. His son, Charles Frederick Spang, a mere youth, became interested in the mills and when at the

age of nineteen, his father removed to what is now the suburban village of Etna, near Pittsburgh, and built a mill, organizing the firm of H. S. Spang & Son, young Spang became general manager with offices in Pittsburgh, in 1828. Young Spang immediately identified himself with the growing interests, municipal and otherwise, of Pittsburgh and soon was among its most influential citizens. He was an incorporator of the Allegheny cemetery, the West Penn Hospital, a director of the Bank of Pittsburgh and a vestryman of Trinity Protestant Episcopal Church. When Henry S. Spang died in 1845, the firm of Spang & Son was dissolved and the successful firm of Spang & Company (Charles F. Spang and James McAuley) was organized. This company sold out in 1858 to the present firm of Spang, Chalfant & Company (Charles H. Spang, son of Charles F. Spang, John W. Chalfant, Campbell B. Herron, A. M. Byers and Alfred G. Lloyd). The original motives of the removal of the Spangs, first to Blair county and next to Pittsburgh, were transportation (the Pennsylvania canal) and, next, the vision of the coming importance of Pittsburgh as a manufacturing center. The event, in each instance, justified the removals. The firm subsists to-day as one of the most important of the independent steel pipe concerns in the United States. At Etna this firm, incorporated July 13, 1899, with an authorized capital stock of two millions of dollars, is officered by Henry Chalfant, president; George Matheson, Jr., vice-president and treasurer; G. E. Crates, secretary; R. D. Morris, assistant treasurer. This concern manufactures steel tubing, having a capacity of 290,000 tons annually. The equipment consists of one twelve and one sixteen-inch skelp mill, two buttweld and five lapwell furnaces, with cutting and threading machines; one 1-tank galvanizing shop, six miles of railroad track, four locomotives and thirty-five cars.

The Pittsburgh Steel Company, which owns the total capital stock of the Monessen Coal and Coke Company, Standard Land and Improvement Company, the Perfect Fence Company, Ltd., of Canada, Pittsburgh Steel Ore Company and the Monessen Southwestern Railway Company, has several large plants in which ingots are reduced to sizes of billets, blooms, etc., down to one and a half inch square. The plants consist of two 500-ton blast furnaces, one three-high 47-inch bloom mill, two three-high 28-inch billet mills and one 18-inch continuous bar mill; the finishing departments are equipped with two complete modern rod mills, two wire drawing mills, one wire nail mill, one barb wire mill, four galvanizing plants and a factory for making electric welded wire fencing. The company in 1917-18 bought five hundred and thirteen acres of coal land in Greene county and more recently the W. Harry Brown coke properties in Fayette and Greene counties, Pennsylvania. The capital stock is \$7,000,000 common and \$10,500,000 preferred cumulative seven per cent. stock. John Bindley is president, Emil Winters first and D. P. Bennet second vice-presidents; Mr. Bennett is also treasurer and H. J. Miller is secretary.

CHAPTER XXV.

Glass Manufactories.

The art of glass making is of ancient origin and was perfected by the Egyptians over three thousand years ago. It was known to the Romans when they conquered Britain, and was introduced into that island as early as 674 A. D., though it was not used in windows until the middle of the sixteenth century and did not come into general use for more than one hundred years later. Glass making was encouraged by the Venetians as a medieval art, it received equal favor in France and crossed the channel to England in 1557. Plate glass was first made in England at Lambeth in 1673. The introduction of glass making in America dates back to 1609, when artizans were sent to Virginia and an effort was made to commence manufacturing.

The fuel used in producing glass was wood, but on May 22, 1623, Sir Robert Mansell was granted a patent in England for the use of sea coal, pit coal, or any other material not composed of timber or wood; this patent carried with it a monopoly for importing fine venetian drinking glasses which is an evidence that the finer articles were not then made in England. The abundance of wood in the colonies was an advantage for a profitable introduction of the art; this commodity was becoming scarce in England, and the supply of coal was as yet limited. The forests of America abounded with a supply of fuel, also there was an abundance of pot or pearl ashes. The breakage caused by transportation was another factor in the further inducement of domestic production. There was, however, a substantial reason; beads and trinkets of glass were used in the early Indian trade as currency and were exchanged for furs, peltry and even the land of the natives.

The first building in America, erected for the manufacture of glass, was in 1609, known as the Glasshouse, about a mile from Jamestown, Virginia. The enterprise was prosecuted with success, and three or four lasts of tar, pitch and soap ashes produced a trial of glass. It was, however, not until twelve years later that any perceptible progress was made, when one Captain Norton, with some Italian artisans, were sent over from England to Virginia to conduct the business of glass-making.

Though glass bottles were made at an early date in Massachusetts, and the authorities encouraged the manufacture of window glass by grants of lands. The latter was deemed a luxury, as evidenced by settlers from England, who were informed that they had better supply themselves with glass for their windows. In the others colonies, while early attempts were made to produce window glass, there does not appear to be any substantial foundation for the success of the enterprise until towards the last half of the eighteenth century.

The first glass factory in Pittsburgh was commenced about the year 1795—a small manufactory for window glass, having one eight-pit furnace. It was on the west side of the Monongahela river at Scotts. Wood

was used as fuel, and three boxes were made at a blowing. The founding of the glass industries of Pittsburgh was due to the perseverance of General James O'Hara, who in 1796, in connection with Major Isaac Craig, engaged Peter William Eichbaum, of Philadelphia, to erect a plant. The works were situated below Jones' Ferry, nearly opposite the Point, and the first furnace had the same capacity as the one already mentioned. Operations were commenced in 1797, and green glass was manufactured. A memorandum paper is extant in which General O'Hara says, "To-day we made the first bottle at the cost of thirty thousand dollars." The manufacture of flint glass and window glass was soon added. The abundance of coal mined at the very doors of the furnace and the facilities of obtaining other materials by water gave the promoters of the enterprise unequalled advantages. The substitution of soda for potash also reduced the cost of production.

James O'Hara, a native son of Ireland, emigrated to America in his youth, and in 1773 we find him as an Indian trader at Fort Pitt. True to his adopted country, at the commencement of the Revolution, he entered the ranks of American patriots as a private, but soon afterwards became a captain in the Ninth Virginia Regiment. Owing to his superior business qualifications he was placed in the quartermaster's department, in which he served during the war as assistant quartermaster. After the close of the war he engaged actively in business, filling large government contracts for supplying the western armies, also acting as purchasing agent for Indian supplies. With farseeing business acumen, at the time of the laying-out of Pittsburgh, he made large real estate purchases of the Penns and the State of Pennsylvania, and also secured large landed property in Ohio, Indiana and Illinois. The basis of General O'Hara's life was his endless activity in promoting every business interest for the growth of Pittsburgh. He received in 1792 the appointment of quartermaster-general in the United States army. While holding this position he served during Wayne's expedition, and took part in the memorable campaign which put an end to Indian hostilities at the battle of Fallen Timbers, which was followed by the treaty of Greenville.

General O'Hara was a farseeing calculator. Soon after he engaged in manufacture of glass, he built ships, loaded them with furs and peltries for the Liverpool market, also sent cargoes of flour to South America and West Indies. Salt at this time was a scarcity in Pittsburgh; O'Hara engaged with the government to supply provisions to the garrison at Oswego, New York, and on his return trip he purchased salt at Onondaga to supply the western country. This was an undertaking requiring courage and adventure, as transportation was in a primitive state. Boats and teams conveyed the salt from Onondaga to Oswego, where a vessel transported it to a landing below the Falls of Niagara, where wagons again took the cargo to Schlosser, thence boats carrying it to Erie. From the latter place it was taken by wagons, through swampy roads and by portages, and conveyed to the head of French creek, where boats were provided to float down the creek into the Allegheny river to its final destination, Pittsburgh.

In 1802 additional glass works were built by General O'Hara, and preparations were made to manufacture white and flint glass; unsuccessful attempts were made to obtain workmen from England. Five years later there was produced at these works \$18,000 worth of manufactured articles. General O'Hara in later years of his life became embarrassed financially on account of his large real estate holdings. He died at Pittsburgh, December 21, 1819.

Pittsburgh owes her prestige as a commercial and manufacturing center in her pioneer days to General James O'Hara. He was not only a manufacturer but a trader and contractor. He brought skillful glass workers from Europe, which with a superior quality of raw material made it possible to furnish window glass of any size from 7x9 to 18x24 inches, and even larger sizes for coaches, pictures, clock faces, etc. Bottles of all kinds were made, from the pocket flask to those used by druggists. This was the only glass factory west of the Alleghenies, and transportation from the East being difficult and expensive, high rates were charged for the products. Hollow ware gallon bottles were four dollars a dozen; quart bottles one dollar and sixty cents a dozen; window glass 7x9 inches, a box of which contained one hundred pieces in size, was eleven dollars a box. There was, however, but little glass used in the common houses in Western Pennsylvania prior to the nineteenth century, greased paper being substituted.

The second glass works to be erected in the vicinity of Pittsburgh was in 1800, by Denny & Beeler, on the north side of the Ohio river, in what was originally called Manchester. The works were known as the Ohio Works, and continued in operation only a few years, and failed on account of not being able to use wood as a fuel. There was no further adventure in the manufacture of glass until in 1808, when Bakewell, Page & Bakewell built a new glass factory on the present site of the Baltimore & Ohio railroad depot. This became the largest and most noted works of the city, producing a higher grade than its early competitors, though laboring under the difficulty of securing proper material and expert workmen. They succeeded, however, in overcoming these difficulties, and though their specialty was flint glass, they were the first to manufacture cut glass and to ornament and engrave in glass work. Their products not only sold in the domestic market, but in almost all parts of the world, particularly in Mexico. To Pittsburgh belongs the honor of producing the first cut glass chandelier in America—a six-light affair with prisms, cut in 1810 by a German named Eichbaum, who claimed to have been a glass cutter to Louis XVI of France, and after that unfortunate king's death came to Pittsburgh and established himself in business. The chandelier was suspended in the house of Mr. Kerr an innkeeper. The three glass manufactories in operation in Pittsburgh in 1810, when the population was only 4,740, produced flint glass valued at \$30,000, and bottles and window glass amounting to \$40,000.

Bakewell, Page & Bakewell was one of the oldest flint glass firms west of the Alleghenies, and the original members and their descendants continued business for nearly four-score years; about 1850 they removed

to between Eighth and Ninth streets on the South Side, and in the seventies of the past century the firm was Bakewell, Pears & Company. They manufactured about \$200,000 annually of cut and engraved ware such as gas shades, goblets, decanters, tumblers; also tableware, bar furniture, chimneys, lantern glasses, and all kinds of blown and pressed glass. The firm was so favorably known that in 1832 President Jackson ordered a set of glass for his own use, to consist of bowls with and without stands, celery glasses, pitchers, decanters, tumblers, wine and champagne glasses, to be executed in best style of workmanship; the value of the order was estimated at \$1,500. The firm previous to this had made for President Monroe a full set, and received a medal from the Franklin Institute as producers of the best work in cut glass.

The next glass works were built on the south side of the Monongahela river by Sutton, Wendt & Company. There were several changes, and in 1825 it was owned by Wendt, Ensel, and other partners, the product being window glass and green glass hollow-ware. They employed about forty hands, and their yearly product was about \$30,000. John Robinson in 1823 erected what was called the Stourbridge Glass Works, on Ross and Second streets, and manufactured a grade of goods in competition with the Bakewell Glass Works.

The glass business grew rapidly until the panic of 1837, when there were sixteen glass factories and eight glass cutting establishments in or near Pittsburgh, employing five hundred men and producing \$520,000 worth of merchandise, the city ranking among the leading glass producing centers in the United States. The Bakewell, Page & Bakewell were known as the Pittsburgh Flint Glass Manufactory, located on the corner of Grant and Water streets, with a warehouse on the corner of Wood and Second streets. Every class of flint glassware was manufactured, including bureau mountings, curtain pins, confectionery jars, apothecary's shop furniture, canteens, bottles, flasks, vials, and window glass. T. A. Hillier & Company and David Blair, Jr., were engaged in the manufacture of looking glasses. Among early pioneers was William McCully; he was of Irish descent, and learned the trade of blowing flint glass at the Bakewell establishment, and of window glass at the O'Hara works. In connection with Captain John Hay he erected a flint glass factory in 1830 at the foot of Nineteenth street, on Railroad street. At the time of the flood of 1832 the works were submerged, and he disposed of his interests to Captain Hay. Mr. McCully built in 1833 a factory on the corner of Sixteenth and Liberty streets, where he made green and black bottles. The next year he became interested in a window glass factory at Monongahela City, and in 1850 bought the Sligo works of F. Lorenz, demolished the stone factory, and erected the first brick glass factory in Pittsburgh. A second factory was built in 1854. In 1860 the firm, which consisted of Mr. McCully, Mark W. Watson, and John M. King, conducted the Pittsburgh, Phoenix, Empire and Sligo works, where they manufactured black and green bottles, vials, demijohns and window glass. Mr. McCully died in 1869, but his partners continued the business for over a score of years under the old firm name.

Frederick Rudolph Joachim Lorenz came to America in 1809 from Disellburch Fresstenthum, Lippe Detmold, Germany, where he was born June 10, 1794. He arrived in New York City a poor boy, and soon came to Pittsburgh and learned glass blowing. He bought in 1818 the O'Hara Glass Works, and some time afterwards purchased the Encil Glass Works. He later became identified with steel and railroad enterprises. As early as 1840, in connection with Thomas Wightman and William McCully, he operated the Sligo Window Glass Works and the O'Hara Works, and on dissolution of this firm in 1851, Messrs. Lorenz and Wightman organized the firm of Lorenz & Wightman, retaining the O'Hara Works. The death of the senior member in 1854 caused Mr. Wightman to retire from the firm, and the works were operated by F. R. Lorenz, Jr., under the name of the Penn Glass Works for a few years. After the dissolution of this firm, the works were leased by Fahnestock, Albree & Company, who carried on the business for several years. In 1863 Thomas Wightman, M. A. Lorenz and Alexander W. K. Nimick entered into a partnership, the firm becoming Lorenz & Wightman. The works of Fahnestock, Albree & Company at Temperanceville, now in the city limits, was purchased in 1871. On the demise of Mr. Lorenz the firm name became Thomas Wightman & Company, which in 1883 was chartered as a limited company, and became one of the leading manufacturers of window glass and bottles in Pittsburgh. Early in the nineties of the past century the firm became known as Thomas Wightman Glass Company, but this corporation, as well as the William McCully & Company, passed out of existence in the first decade of the twentieth century.

One of the oldest and most important glass works in Allegheny county was started by Samuel McKee in 1834, on the South Side. The works consisted of three factories, two for the manufacture of glass, the other exclusively for bottles. The works employed 200 hands, and \$400,000 worth of hollow-ware and window glass was produced annually. The principal of the establishment was one of the oldest practical glass manufacturers in Pittsburgh and was continuously engaged in the business for over a half a century. The Fort Pitt Glass Works was established in 1827 by Alfred B. Curling, Morgan Robertson, Edward Dithridge and Henry L. Ringwalt, under firm name of Curling, Robertson & Company. This firm was dissolved in 1857, and was succeeded by Edward Dithridge, who was connected with the business until his death in 1873. Henry L. Ringwalt was for a number of years after his retirement from the firm of Curling, Robertson & Company, engaged in the manufacture of glassware.

Pittsburgh was recognized in 1860 as the seat of the glass trade for the South and the West, and the manufactured articles were mostly for domestic use. The manufacturers made their own metal moulds for pressed glassware, and an important feature was the producing of novelty designs. There were five establishments, with a capital of \$285,000, using raw material amounting to \$105,211, employing 334 males, and producing annually \$286,712 of window glass. Besides, there were thirteen estab-

ishments with a capital of \$1,582,600 using raw material amounting to \$594,408, giving employment to 1,785 males and which produced in hollow and pressed glassware \$1,785,426 annually. Among the new firms established after 1840 was that of Chambers, Agnew & Company, whose works were located in 1843 on the banks of the Allegheny river. The original firm carried on business until 1854, when Alexander Chambers retired and formed with D. H. Chambers the firm of A. & D. H. Chambers. The junior partner, John Agnew, conducted the business on Brownsville avenue, where he manufactured for a number of years druggists' green glass and flint glassware, having a furnace for each quality of glass made. A. & D. H. Chambers located on the South Side, and for many years were actively engaged in the manufacture of window glass, vials, and bottles, having an equipment of five furnaces, when running at full capacity employing four hundred hands.

William Cunningham, a practical glass manufacturer, early in the fifties of the past century formed the firm of W. Cunningham & Company, to manufacture window glass, black glass, flint glass, and druggist's glassware on the South Side. Christian Ihmsen, who was closely connected with Whitehead, Ihmsens & Phillips, who conducted four large factories in Birmingham, formed the firm of C. Ihmsen & Company, and later took in as partners F. McGowin, C. T. and William Ihmsen. The manufacture of special colored glass was commenced in 1848 by Simpson, Leake, Stranger & Company, who produced the first amber colored bottles for liquor. The Hope Glass Works were operated in 1850 by Lewis and Samuel Harcum; they made a specialty of mineral, hock and claret wine bottles. Their existence, however, was of a short duration. The firm of Bryce, McKee & Company was established in 1850, afterwards became Bryce, Richard & Company, finally Bryce, Walker & Company. The firm manufactured pearl and crystal table lamps, and bottles for perfumery ware. Phillips & Best were located for a few years on Try street, manufacturing window glass of all kinds. The firm of Ledlie & Ulam, in the early fifties of the past century, were engaged in the manufacture of glass. The death of Mr. George Ledlie took place in 1858, and a new firm was organized by Charles T. Ihmsen and A. T. Ulam, a former partner of the old concern, but later the firm became Blackburn & Ulam. There was formed in 1848 the firm of James B. Lyons & Company, which consisted of James B. Lyons, William O. David and Alexander P. Lyons. They carried on business until 1875, when by a special mercantile law the title was changed to the O'Hara Glass Company. The works were located on the Allegheny river, and their two furnaces manufactured pressed flint glass, tableware, etc. Besides those already mentioned, in 1860 there were the following engaged in glassware manufacturing: Adams, Macklin & Company; Arborgast & Kappahn, who manufactured black glassware, such as bottles for porter, brandy, schnapps, also carboys and demijohns; George Berry & Company, T. A. Evans & Company, and E. Wormser & Company.

Glass in 1890 ranked third in the amount of capital invested in manufacturing industries in Pittsburgh, the amount represented being \$7,439,-

619. In the three decades preceding this, the manufacturing of glassware had been revolutionized and specialization was practiced. This period saw the foundation of the Pittsburgh Plate Glass Company, which was organized in 1883 with a capital of \$600,000, and built its first factory at Creighton. The originator of this gigantic corporation for the production of plate glass was John Pitcairn, who in connection with John B. Ford, a prominent glass manufacturer of New Albany, Indiana, and his two sons, Edward and Emory L. Ford, were controlling stockholders. Later Artemas Pitcairn, a cousin of the founder, was interested in the executive management. The purchase of the Charlerio Plate Glass Company with works at Fallowfield and the Campbell-Jones Plate Glass Company of Pittsburgh, removed two competitors from the field of competition. The expansion of the Pittsburgh Plate Glass Company is only the history of other capital controlled industries. The capital stock has been increased several times, until it is now represented in the multi-million class. Factories are operated in different States to the number of between fifteen and twenty, with warehouses and offices in all the important commercial cities of the country. The manufacture of plate glass has been supplemented by stocks of plain and beaded mirrors, bent glass, also a full line of paints, varnishes, brushes, and painter's supplies, and the corporation has become the largest jobbers of this merchandise in the world. Art glass is also a feature of production, and special designs are furnished for churches, auditoriums and residences. The corporation in 1902 purchased the well known Courcelles Plate Glass Company of Belgium, whose products have a world-wide reputation. At the time of the opening of their first factory, employment was given to five hundred men, to-day it reaches close to ten thousand wage-earners. The Pittsburgh Plate Glass Company was among the first to develop and adopt the Lehr annealing process, which has revolutionized the manufacture of plate glass. The chief executive office is in Pittsburgh.

The first medal and diploma awarded for the first specimens of optical glass was in 1893, at the World's Fair in Chicago, to George Alexander Macbeth. His first venture in this line was made in 1877; he also was the first American manufacturer to produce lighthouse lenses and illuminating apparatus for coast service. The Macbeth's plant was one of the industrial glories of Pittsburgh, extensive in proportions and perfect in system, its products soon won a world-wide reputation. In 1880 more lamp chimneys were manufactured than by any other competitor in the world; the name Macbeth imprinted into the chimney was every way recognized as an article of first-class value. The factory at Charleroi alone covered twelve acres and employed 1,400 wage-earners; besides, there were factories at Toledo, Ohio, and Elwood and Marion, Indiana, employing 4,000 persons. After the death of Mr. Macbeth the firm became consolidated with Thomas Evans & Company, and is known at the present day as the Macbeth-Evans Glass Company.

Pittsburgh maintained its supremacy in 1890 in the manufacture of window glass, notwithstanding the impetus given its manufacture in Ohio by the use of natural gas. The two largest glass works at this

time were the Chambers Glass Plant at New Kensington, and the Chambers & McKee plant at Jeanette. The former was the first to erect the continuous tank, which was first introduced into Belgium; this process discarded the old pot system. By the new system, glass was made without intermission, three shifts of male workers filling out the twenty-four-hour day. The result was that employment was given to more wage-earners in the district of Greater Pittsburgh than anywhere else in the world. Of the \$10,000,000 worth of window glass produced in the United States, Greater Pittsburgh furnished of the total, \$3,500,000. The Chambers McKee Company was the concentration of the interest of the firm of F. & J. McKee, which was established in 1853, and four years later was changed to McKee Brothers, and of interests formerly connected with A. & D. H. Chambers. The McKee Brothers at the time of their organization conducted the most extensive flint glass works within Allegheny county. They were situated on the South Side, and they were devoted to the manufacture of table and bar ware, druggists' furniture, jars and chimneys, their annual output being \$250,000, giving employment to two hundred hands. The old firm of W. Cunningham & Company went through many changes from its organization in the early fifties of the past century. The name of Pittsburgh City Glass Works was adopted and at different times the firm name was Cunningham & Company, Cunningham & Ihmsen, the members of these firms at various times being William, David and Robert Cunningham, Dominick Ihmsen, and George Duncan. Their factories consisted of three furnaces on the South Side, with an annual capacity of \$450,000. The D. O. Cunningham Glass Company is the outgrowth of some of these interests. The introduction of the sons of Christian Ihmsen into the firm changed the title to C. Ihmsen & Sons, later changed to the Ihmsen Glass Works, but all traces of the firm's activities in the glass business of Pittsburgh have been extinguished for many years. The principal article of production of this firm was window glass, but a patented article was made, an imitation of crown or plate glass. The Excelsior Glass Works, for the manufacture of lamp chimneys and other flint glassware, was established in 1859 by John A. Wolfe, A. V. Howard and T. Campbell, who had been interested in the manufacture of glassware for several years. Their works were of medium capacity, but continued in existence for over thirty years. There have been many changes in the complexion of the firms engaged in glass industry in the last quarter of a century. The green glass trade is not so extensively carried on as other lines of glassware, though in 1920 there were seven establishments engaged in producing bottles to the value of over \$2,000,000, employing over a thousand working males and one hundred and forty females. The most important of these industries are J. T. & A. Hamilton Company, and the Wormser Glass Company.

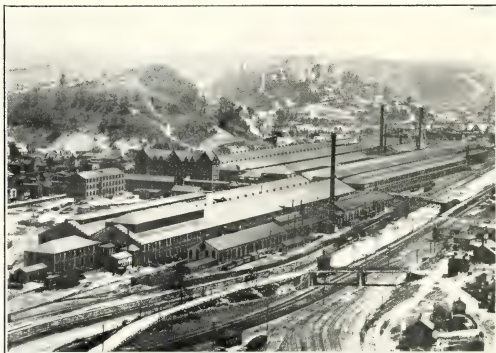
In the nineties of the past century, Pittsburgh was the center of the flint glass trade, which included pressed ware, flint bottles, electric bulbs, lamp chimneys, tumblers, etc. The United States Glass Company was in operation at this time, owning ten of the largest plants in the country, of which five were located in Pittsburgh, with a capacity of one hundred

twenty-two pots. The company's main office was in Pittsburgh, and at Glassport, on the Monongahela river, just above McKeesport, they built their first factory of thirty pots with the object of making that point the manufacturing center for flint glassware. Their aim was eventually to centralize their different factories at this point and to give employment to 3,000 workmen, which has been more than realized at the present time. There were in Pittsburgh in 1895, sixteen flint glass factories with thirty furnaces of three hundred and fifty-three pots, also in the Greater Pittsburgh district there were twenty-seven factories with forty-five furnaces, these combined, being more than one-third of all the flint glass produced in America.

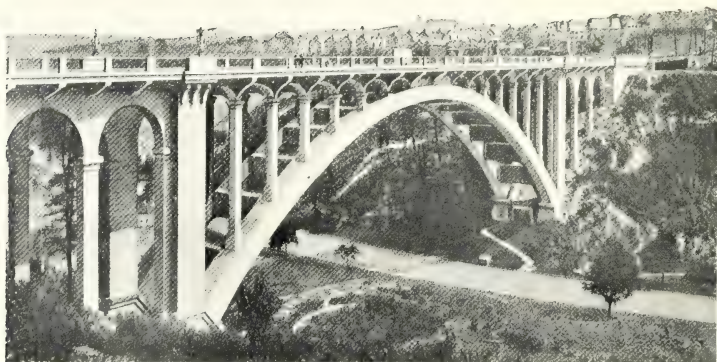
The panic of 1893, coupled with the labor strike against the United States Glass Company, crippled the glass production for that year. Business, however, quickly revived, and from that time to the present day, not taking into consideration the war period, production has been normal. There was in 1920 \$2,697,520 of pressed and hollow tableware manufactured by the nine establishments engaged in that line of industry, employment being given to 1,335 male and females. There are, of course, industries that make a specialty in glass manufacturing, prominent among them, Conroy, Prugh & Company, who in their works on the North Side manufacture mirrors, plate and window glass, specializing in store fronts, and are outfitters for hotels and restaurants. The E. & S. Manufacturing Company produces non-glaring lenses for automobiles, motorcycles, street cars and locomotives.

The process of staining glass for the ornamentation of sacred edifices, public buildings, and residences was for many years a profound secret. The increased demand, however, caused the dissemination of the secret, and many persons embarked in the business. The pioneer in this class of work in Pittsburgh was William Nelson. The processes used are minerals, such as gold, silver, cobalt, tin, copper, zinc., etc., which are pressed and blended into the glass by heat, therefore becoming a part and particle of the glass itself. The production of this decorative glass work in Pittsburgh in 1920 amounted to about \$200,000. Among the important firms engaged in this line of art work are the Pittsburgh Art Glass Company, the Art Stained Glass Company, and the Twin City Art Glass Company.





WESTINGHOUSE ELECTRIC AND MANUFACTURING
COMPANY, EAST PITTSBURGH



LARIMER AVENUE BRIDGE
(The Largest Concrete Span in the World)

CHAPTER XXVI.

The Westinghouse Industries.

George Westinghouse, Jr., probably deserves primacy in the "House of Lords" that is Pittsburgh's in the manufacturing world. The genius of George Westinghouse is of the type generally distinguished as characteristically American—the combining of the skill, integrity and ingenuity of the inventor with the highest form of managerial and commercial ability. It has been impressively shown how large a part in his success has been played by boundless capacity for hard and unremitting work, supplementing the other two great factors—first, the contribution of some great improvement to the economy of engineering; and, second, the faculty of organization in its production. On this triple foundation—inventiveness, organization, energy—the structure of successful manufacturing was securely raised.

George Westinghouse was not a native of Pittsburgh, but the quality of his genius, the nature of his energy, the atmosphere necessary for the organization and execution of his plans were, in his judgment, assets of Pittsburgh only, and in this theory he chose this city as the theater of his operations, and herein he remained until disease overcame him and death took him in his native State, in the fullness of his years. Mr. Westinghouse had the genius of invention, backed by an engineering and constructive ability possessed by few men, the aggregate of his inventions including the most useful contribution to labor-saving and human convenience not having been reached by any other inventor of record. Even his youth was of a serious, contemplative nature, much of his time being passed in the consideration of devices that would at once promote the saving of human exertion, and at the same time work a reduction in the cost of production of whatever nature. Heredity had much to do with this inclination, his father having been a manufacturer at Schenectady, New York, and in his shops his son picked up the practicalities and evolved many of the theories that afterwards he gave substance to. He entered the naval service of the United States while yet a lad as an engineering officer, and gave valuable service in the years 1863-64-65. Returning home, he became a student in Union College, Schenectady, but left school to get into the real work of mechanical engineering. His earliest invention was a device of cast steel for replacing derailed cars, and a reversible steel railroad frog. The latter, Mr. Westinghouse exploited himself and quite successfully, and it was while he was in quest of customers that he became interested in the necessity of a patent for controlling the action of passenger trains, afterwards expanded into general control of all brake-using trains, his air-brake.

The elder Westinghouse was anxious to give his son a college education, but the professors discovered that the youth was interested primarily only in certain branches of mathematics, the remainder of the curriculum of Union College not appealing to him in any particular.

The president of the institution, after a conference with his father, advised the young inventor to go into the works operated by his parent, and this advice he quickly availed himself of. He did his daily dole in the shops, meantime revolving in his mind many schemes for inventions that would lessen labor and give greater production, but paramount with him were plans for entirely new mechanical devices that would be world-wide in their employment and of vast service to the mechanical world. The car-replacing invention came of his impatience with the slowness with which railroad employes replaced some derailed cars upon which he had been a passenger. He gave audible expression to this impatience, when it was curtly suggested that he invent an improvement. He accepted the challenge, and procured the patent for his invention. His father had not the courage to get without the area of his own productions, and declined to go into the manufacturing of the new patent, but advanced his son a small sum of money to engage in its manufacture and sale in connection with two others who were willing to furnish the money if young Westinghouse would make and sell the replacer. The cast-steel reversible frog was the next invention which was made and sold under similar conditions.

The primary invention and progressive perfecting of his air-brake, his courtship and marriage, were concurrences that mildly stirred the enthusiasm of the young inventor, intent as he was upon giving to the world his first great accomplishment. His multiplied discouragements, his lack of means, the disinclination of his father and friends to engage with him in the making of his "chimera," his many rebuffs, irritated but never discouraged George Westinghouse. He wrought and thought, and eventually concluded to go to Pittsburgh, where he felt sure he could raise the necessary capital as well as the necessary buildings in which to produce his air-brakes. It was a fortuitous circumstance that brought him face to face with Ralph Baggaley, an enterprising young man of the city, who instantly saw the value of the future of the patent, and through his influence and activity the Pennsylvania railroad was induced to equip a train for trial and experimentation. W. W. Card, superintendent of the Panhandle division of the Pennsylvania railroad, gave the experiment the most satisfactory measure of trial in its most crucial forms, and was entirely satisfied with the merit of the patent. This was not done, however, until Mr. Westinghouse was forced by the president of the railroad to guarantee the safety of the locomotive and general road equipment, as well as to pay all expenses involved in the demonstration, which responsibility was promptly assumed. The new brakes were almost immediately given an unexpected test, because, as the train emerged from the Panhandle tunnel at Second avenue, a two-horse dray was driven upon the tracks and to avoid a collision the engineer applied the brakes, which responded so quickly that the train was stopped, throwing the passengers from their seats. The Pennsylvania railroad officials rigged up a train and gave the patent still sterner tests in the Allegheny mountain grades and in many strenuous experiments, all of which it sustained with increasing efficiency. This train was exhibited throughout the railroad

centers east of the Mississippi river, and withstood every obstacle that was prepared for it to overcome. Mr. Westinghouse was awarded his patent in April, 1869, and in June of that year the Westinghouse Air Brake Company was organized, with a capital of \$500,000, with Mr. Westinghouse as president, and John Caldwell as treasurer. The foundry in which Ralph Baggaley and others had been interested became available, and in this the manufacture of air-brakes was begun in 1869-70. In the former year Mr. Westinghouse was just twenty-three years of age. Mr. Westinghouse, as soon as the patent was approved in America, hastened to England, where in 1872 it was given trial upon the London & North-Western railway between Stafford and Crewe, and about the same time he equipped twelve passenger coaches and two freight cars for a series of tests on the Caledonian railroad between Glasgow and Wemyss Bay. Every railroad company in Great Britain that consented to give the brakes a trial, did it under the most trying conditions, time after time, but all came off satisfactorily, and the enforced conclusion was that if for no other reason, the brakes were worth the money, because their cost was more than made up by the "savings in repairs." Mr. Westinghouse extended his European explorations in behalf of his patent to the countries of Continental Europe, finding, as he went, the crass reluctance of these century encrusted peoples to take on new things, indeed, even to think of so doing. He worked and travelled incessantly for fifteen years, demonstrating, explaining and talking generally to railway operators and scientists until he had the satisfaction of seeing his patent in use all over the world.

Mr. Westinghouse, despite his assiduous attention to the development of his air-brake, took time to give thought to all appliances that might work, if not novelties, at least improvement in other mechanical inventions. Anticipating the area of service that the newly patented telephone would have, Mr. Westinghouse in 1872 designed and built a complete automatic central exchange system, that was the pioneer in the present approximately perfect system in general use.

The Westinghouse patents and personal performances in the succeeding years were frequent and important. The opening of the natural gas field in Murrysville, Westmoreland county, almost at the front door of Pittsburgh, the possibilities of this gas for fuel, domestic and manufacturing, became immediately an affair of concern to Pittsburgh manufacturing and capitalistic interests, and at once drilling for gas began all over the district. Mr. Westinghouse spent much time and gave much thought to the problem, and was frequently in the Murrysville field observing the drilling and studying other phases of the new situation. He began drilling a well in the rear of his own grounds at Homewood, and in a short time the first well was brought in in the limits of the city of Pittsburgh. The quality of this gas was tested for its illuminating values, the fuel invariants already having been demonstrated. Out of these tests came the determination to turn the gas into a series of mains and distribute it and the products of other wells among the factories and households of the city and vicinity. Problems of pressure in this distribution

were not solved and danger was not measurably overcome at once, lives and property being preliminary sacrifices ere the gas became the controlled servant of its producers and transmitters. The Philadelphia Company, an organization with vast powers and privileges, under a charter specially passed by the Pennsylvania Legislature for use in another instance, was bought by Mr. Westinghouse, and under the terms of this charter the first distribution of natural gas was begun and is still carried on in the United States. Later these activities were extended to the production and transmission of oil. The Philadelphia Company was later sold to the operators of the street-railway system of Pittsburgh, which now operates the street railways, electricity, the oil and gas and other public utilities.

In 1879 the pneumatic system of interlocking signals for controlling the movements of railroad trains was patented by Mr. Westinghouse, and buildings for the manufacture of special things used in the installation of the plants were erected at Swissvale, an eastern suburb of Pittsburgh, under a charter granted the Union Switch and Signal Company, which also turns out many other utilities. Within a year after this company was under way, a charter was obtained by the Westinghouse Machine Company of Pittsburgh to manufacture steam and gas engines and steam turbines. Through the inventive genius of Herman H. Westinghouse, brother of George Westinghouse, Jr., a high-speed engine was produced that commended itself in all of its possibilities to the latter. Herman Westinghouse, enroute to Boston to inspect some apparatus that the Brush Electric Company was preparing for him, encountered William Stanley, an electrical engineer, who gave him some new practical ideas and in turn Herman Westinghouse introduced the engineer to George Westinghouse, who engaged him to conduct sundry experiments in the use of the dynamo, and relative to a lamp of Stanley's invention. These experiments were carried on at the Union Switch and Signal Works at Swissvale. The enterprise was not very presumptuous at the start, consisting chiefly of supplying apparatus for incandescent lighting in competition with the Edison Company, little difference being between the two systems except for the important self-regulating feature of the dynamo. In the court contests that attended the uses of the two systems, Mr. Westinghouse had sharply brought to his attention the limitations of the direct current system then exclusively employed for lighting and power purposes, ultimately leading to his identification of the great advantage to be derived by the substitution of the alternating system for the direct system. A direct or continuous current of electricity is comparable to water made to flow through a pipe always in one direction, whereas an alternating current is as if the same water were made to flow through the pipe first in one direction and then in the other, the reversals in direction occurring a great many times in a single second—an expedition that would be possible in so imponderable an essence as electricity. Popular feeling had been educated against the use of the alternating system as dangerous and more highly expensive than the direct. Mr. Westinghouse was intent upon the discovery and adaptability of a de-

vice whereby the alternating current with its mighty resources could be placed at the disposal of all sorts of users for a non-prohibitive price, as an impulse to all kinds of machinery, for the manufacture of electricity for the lighting of streets, halls and houses, and for "easing the difficulties of housekeeping." He added to his staff at Swissvale, Guido Pantaleoni, an Italian; and Albert Schmid, a very competent Swiss engineer, the function of the latter being to design and construct the dynamos needed to make effective the discoveries of William Stanley. Later Oliver B. Shallenberger, Nikola Tesla, Reginald Belfield, C. F. Scott, Lewis B. Stilwell and Loyall A. Osborne joined this group in quest of improvements in the alternating current system. The merits of the Gaulard-Gibbs secondary generator were brought to Mr. Westinghouse's attention, and these patents were subsequently obtained. Mr. Stanley and his collaborators, through a system of experiments, found that the serial system of the Gaulard-Gibbs should be changed to a multiple-arc or parallel arrangement of transformers. But this did accomplish the Westinghouse design and Mr. Stanley was sent to Great Barrington, Massachusetts, to establish an experimental laboratory, where he made notable improvements and it was then that the Gaulard-Gibbs rights were bought. The Patent Office placed some obstacles in the way of Westinghouse's use of these patents, but these were overcome, and the plans of Stanley for an alternating-current constant-potential dynamo invented and served to solve the problem. These improvements made it possible to make and sell machinery to cities, boroughs and towns, with which they could make their own electricity and sell it to home consumers and at the same time light their streets and public buildings. Shallenberger invented the meter, and Tesla the motor requisite to give absolute efficiency, before the Westinghouse Company were completely in command of the situation. Then came the series of legal battles between competitors and the Westinghouse interests, but in the end the latter came into their own.

"Electrocution" came into the language and vocabulary as the result of the report of a commission appointed by Governor Hill, of New York, to inquire into the matter of using the alternating current as a means of putting to death the capital criminals of the State. The chairman of this committee, Elbridge T. Gerry reported in favor of its adoption and an act of the legislature making the report effective was passed. The prison at Clinton was equipped with the Westinghouse mechanism and in this prison, August 6, 1890, William Kemmler was electrocuted for hacking to pieces "a dissolute woman." The efforts to defeat the new method of execution were various, some of them theatrical. Bourke Cockran, Roger Sherman, and other attorneys, were employed to carry it through the several courts of the State of New York, and even the Legislature was used obstructively to prevent this electrocution. The peculiar attitude of Mr. Westinghouse toward the prevention of the use of electricity to kill felons came from his revulsion to such use, because it was "tantamount to a prostitution of an essence not intended for such work." Dr. Carlos F. McDonald, the supervising physician at the electrocution, said, "electricity is infinitely preferable, both as regards the suddenness with

which death is effected, and the expedition with which all the preliminary details may be arranged. * * * In order words, it is the surest, quickest, and least painful method that has yet been devised."

The Westinghouse Electric Company was organized in 1886, and has continued, after the subsidence of the elements characterizing its tempestuous early career, to be a great factor in the electrical and manufacturing world. One of Mr. Westinghouse's great triumphs was in obtaining the concession to light the grounds and the group of buildings erected for the purposes of the International Exposition in 1893 in commemoration of the four hundredth anniversary of the discovery of America. Others only less notable were accorded him in those days when the pioneers in electrical development were personal contenders for the contracts that not only were profitable but advertisements for the companies that were successful in these contests. In 1891 the Electrical Company was reorganized by taking in the United States Electric Company and Consolidated Electric Light Company, these forming the Westinghouse Electric and Manufacturing Company.

In the latter years of the nineteenth century Mr. Westinghouse began the erection of large new buildings on the banks of Turtle creek for the purposes of his various enterprises. The Air Brake Company was the first to be installed in this locality, removing thereto in 1894. In 1898 the first Westinghouse steam turbines were installed in the Air Brake Company's building at Wilmerding. Four years later the Westinghouse British Company built a plant at Manchester, England. In 1905 Mr. Westinghouse, Grover Cleveland and Morgan J. O'Brien were a committee in charge of the affairs of the Equitable Life Assurance Society. In 1908 he again successfully reorganized the Westinghouse Electrical and Manufacturing Company, and in 1913 the Westinghouse Machine Company.

Mr. Westinghouse had in the comparatively late years of his life to undergo many hardships; some he had to bear from the faithlessness of friends and business associates whom he had enriched beyond the desire of avarice; others, whom he had benefited and befriended in numberless ways. He set himself to overcome his reverses, and this he measurably did before his death in New York City, March 12, 1914. He was individual both in thought and action at all times. His person and presence were impressive, and his dignity of mien and manner always unchangeable. He received from the universities, the colleges, at home and abroad, repeated evidences of the esteem in which the great and the learned of the world held him. Among his honors were the medal awarded him by the Ben Franklin Institute of Philadelphia for the invention of the air brake, 1874; the Order of Leopold of Belgium, from the King of Belgium, 1884; Order of the Royal Crown of Italy, from the King of Italy, 1889; Ph. D. from Union College, Schenectady, New York, 1891; member of the Legion of Honor, France, 1895; John Fritz medal by the four American Engineering Societies, 1905; degree of Doctor of Laws from Königlische Technische Hochschule, Berlin, 1906; awarded the Edison medal for meritorious achievements in the development of the alternating cur-

rent system, by the American Institute of Electrical Engineers, 1912; president of the American Society of Mechanical Engineers, 1910; awarded Grashoff medal by the Verein Deutsche Ingenieure for distinguished services rendered to technology—the first American to receive this honor, 1913.

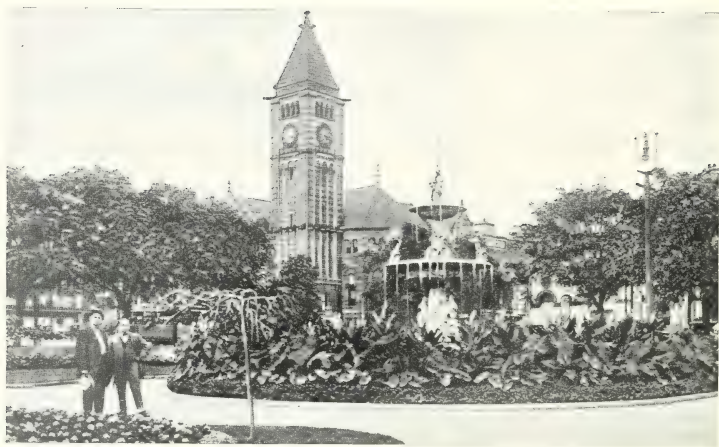
The oldest of the Westinghouse group of industries is the Westinghouse Air Brake Company, whose initial manufacturing plant was in that part of Pittsburgh formerly known as Allegheny City. Here only a small force was employed, and in 1890 removal was made to a site east of Pittsburgh and the town which afterwards became a borough of Wilmerding was founded. The business grew with great rapidity, and at the present time the site occupies about thirty acres covered with buildings having a floor space of twenty acres. It is the largest brake building factory in the world, having a capacity of one thousand sets of brake equipment daily. A force of nearly 5,000 employes are engaged in the manufacturing, necessitating a monthly pay roll from \$300,000 to \$325,000. The average shipments of the finished products is from 200 to 250 carloads.

The function of the airbrake is two fold—first, to stop the train in the shortest possible distance; and secondly, to enable short, smooth and accurate stops in regular operation. It also makes possible the hauling of heavier cars and longer trains. The train control in railroad operations is as vital as tractive power, therefore even with powerful locomotives and first-class road beds the air brake produces faster and more frequent train service, it being more powerful than the locomotive that pulls the train. For instance, a heavy passenger locomotive requires ten minutes in time and nearly six miles in distance to develop energy that the train brakes will dissipate in twenty seconds and within a distance of a quarter of a mile. Since the invention of the air brake, wonderful changes have taken place in the maximum weight of locomotives and cars, train speeds, and train frequencies, which became practicable largely by the air brake. Before its introduction, locomotives weighing only 90,000 pounds were used; to-day these great moguls of transportation are of a maximum weight of 830,000 pounds; the weight of freight cars has increased from 9,000 pounds to 62,000 pounds, while the capacity has increased from 14,000 pounds to 180,000 pounds; the number of cars to a train from fifteen to 130, with carrying capacity of 7,000 tons in place of 300 tons, and the former 450 feet freight train now rolls along the iron roadway a mile in length.

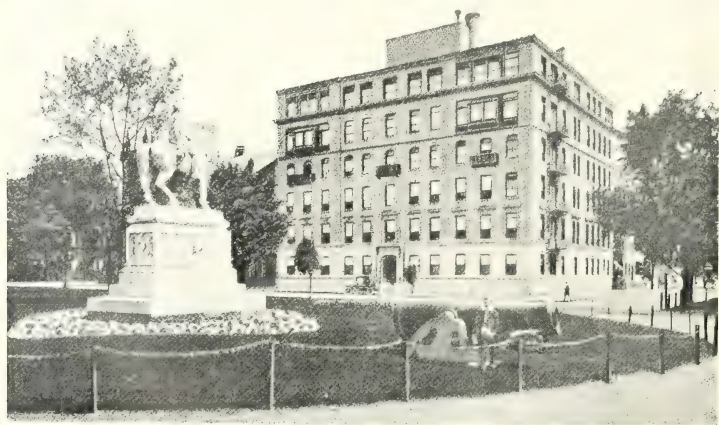
The second great enterprise organized by the wizard of the air brake was the Westinghouse Electric and Manufacturing Company that at its time of conception in 1886 occupied a plant on Garrison alley in Pittsburgh where employment was given to about two hundred men. It was removed to East Pittsburgh in 1895, and its mammoth works now extend through Turtle Creek into East Pittsburgh for a distance of over a mile on the Greensburg pike, now forming a part of the Lincoln Highway. The works of the company consist of over seventy-six acres of floor space, where twenty thousand people are employed requiring approxi-

mately a monthly pay roll of one and three-quarter million dollars. The energy of this immense plant is furnished by a power house of 20,000 horse-power. Everything electrical is manufactured; among the products built are generators from 1-10 to 70,000 kilowatts; motors of different capacity, even exceeding 10,000 horse-power. The average output is nearly of a value of \$4,000,000 a month, which requires 800 cars for shipment, installations of electrical apparatus being installed by the company in every civilized country on the globe. The immensity of these works can be better illustrated when one considers that it would require a walk of ten miles to traverse all of the buildings. The company maintains a relief department, a saving and pension fund for the benefit of its employes, and has always occupied a leading position in the equipment of its machinery with safety devices. In addition to its works at East Pittsburgh, the company owns and operates plants at Pittsburgh, Pennsylvania; Newark, New Jersey; Cleveland, Ohio; Bridgeport, Connecticut; and the works of the Westinghouse Lamp Company, a subsidiary corporation at Bloomfield, New Jersey; Milwaukee, Wisconsin, and New York City.





PUBLIC SQUARE, NORTH SIDE



WASHINGTON MONUMENT AND PRESBYTERIAN HOSPITAL

CHAPTER XXVII.

Monuments.

The Colonial and Revolutionary historic points in and around Pittsburgh have mostly been marked by bronze tablets by the Daughters of the American Revolution or the Women's Historical Society of Pittsburgh. The oldest and most noted of these historic relics is the small brick block house built by Colonel Henry Bouquet, of the British army, in 1764, where it now stands on the north side of Penn avenue, near Water street. The building is surrounded by warehouses and freight tracks, and owing to the streets being raised in its vicinity to get above flood heights of the rivers, has the appearance of being located in a hole. The Block House is pentagonal in form, of solid brick walls, with loopholes for rifles, and surrounded by a small park in which there is a lodge house. The property was deeded to the Pittsburgh Chapter of Daughters of the American Revolution by Mrs. Mary E. Schenley, and is exempted by the operation of eminent domain, thus securing its preservation. There is in Schenley Park still standing an old log cabin of which there is no available record as to when it was erected. It is constructed of logs, the intersections filled with stones and bricks, with a large stone chimney, the interior consisting of one room. The loop-hole windows still remain as originally built. There seems to be little interest taken in preserving of this reminder of the Colonial days, as its surroundings are in a wild and tangled state.

The city prior to advent of the Civil War had nothing to boast of in the way of public monuments, outside of some magnificent piles in the cemeteries. The movement for the erection of a monument to those sons of Allegheny county who laid down their lives for their country, germinated at a county convention June 6, 1865, and an executive committee of nine veterans was appointed, to which were added two persons for each ward, borough, and township in the county; the organization was completed July 31, 1865, by the election of General James S. Negley as chairman.

Previous to this an association of soldiers who had taken part in the Civil War had failed to procure subscriptions to accomplish this noble work, having obtained only \$1,500. The ladies of Allegheny City had come to their rescue and had increased the amount to \$4,000. The sum thus raised was not deemed adequate to erect a suitable memorial, and from the unused funds of the great Sanitary Fair held in Pittsburgh in June, 1864, there was added an amount to aggregate \$30,000, which with \$5,000 appropriated by the city of Allegheny made \$35,000. By vote of the people, in which Allegheny City received 12,315 and Pittsburgh 3,304 votes, the former city was selected for the site of the memorial, and it was determined to locate it on Monument Hill, in a park of seventeen acres, which was divided from West Park by the buildings of the Western Theological Seminary and private residences. The site thus selected

was of an imposing character, overlooking miles and miles of the surrounding country. The design of the monument was prepared by Mr. Morganroth. It is built of Massillon (Ohio) sandstone, its principal features being a monument on each of the four sides, representing artillery, cavalry, infantry and navy, surmounting these is a colossal statue of Fame. The foundation for the monument was commenced April 1, 1870, and the following Decoration Day the cornerstone was laid. On Decoration Day, 1871, it was dedicated; among those who addressed the audience were General George G. Meade and Governor John W. Geary. The orator of the day was Judge James M. Kirkpatrick.

The German-American citizens of Allegheny City, to celebrate the one hundredth anniversary of the birth of Alexander Von Humboldt, in 1869 erected in the West Park of that city a bust of that noted scientist and traveler, executed in Berlin and mounted on a stone pedestal. There is in this park an equestrian statue of Washington, erected in 1891 by the Junior Order of United American Mechanics, also one erected by the Labor Unions at a cost of \$10,000 to Thomas A. Armstrong, founder and editor of the "Labor Tribune" of Pittsburgh, one of the organs of the organization. Near the lake in West Park was erected in 1914 a memorial for those who lost their lives in the destruction of the battleship "Maine" in the harbor of Havana, Cuba. In the foreground of the memorial is a portion of the armor plate of the unfortunate battleship, in which is inserted a torpedo tube. The design of the memorial is in a semi-circle, in which appropriate inscribed panels are inserted.

In East Park on the North Side is a duplicate of the memorial erected on the battlefield of Gettysburg, which is placed on the position occupied by the Hampton's battery, on the third day of the battle. Hampton's battery was Battery F, Independent Pennsylvania Light Artillery, which was recruited in Pittsburgh in September and October, 1861, and served until the termination of the Civil War. The memorial was erected in 1871. It is a granite shaft, four feet square, upon which is a figure of a gunner in standing position, holding his ramrod, the swab extending far above his head. On the pedestal is the inscription: Hampton, Geary, Todd and Miller, on the one side, while on the reverse are the names of the members of the battery, also on one face of the monument there is the inscription, "Organized October 8, 1861, mustered out of United States service June 24, 1865." At the foot of the monument, mounted on a granite block, is a brass cannon captured from the Spanish at Santiago, Cuba, July 17, 1898, and presented to the city of Allegheny by the United States Government in 1899. Near this monument is a solid cube of white marble with a drinking fountain on either side, with the inscription, "God's Pure Beverage;" on the other sides are inscribed, "Truth, Love, Purity and Fidelity." Through the benefaction of Andrew Carnegie, at the corner of Federal and Ohio streets on the North Side, stands a monument to the memory of Colonel James Anderson; this magnificent bronze monument was designed by the noted sculptor, Daniel Chester French, and was dedicated June 15, 1904, at a cost of \$30,000. It represents a brawny blacksmith as a statue of labor, with bared body

partially covered by an apron, showing the great muscles of his arms, seated on an anvil, against which stands a hugh sledge, while other tools are scattered around. In his lap is an open book which the muscular workman is represented as reading while he rests his body. The statue is mounted on a foundation and pedestal of Connecticut red granite.

The statue of Stephen Collins Foster, near the entrance of Highland Park, was erected in 1890. It is a plain granite pedestal surmounted by a bronze statue of heroic size of the musical composer in standing position with a pen in his handwriting the title of one of his songs, "Old Uncle Ned." At the right-hand side of the statue is a negro playing a banjo, with a harp laying at his feet. The statue was erected by subscriptions received from his friends. On the face of the granite base is the inscription: "Stephen Collins Foster, born 1826; died 1864."

The memorial erected to the memory of Mrs. Mary E. Schenley, at the right side of the entrance of the park named for her, is a large unsightly fountain upon which neither the sculptor, Victor David Brennen, or the architect, H. Van Buren Morgangile, displayed little artistic taste. The inscription on the front of the basin is inscribed as follows: "To the memory of Mary E. Schenley, the donor of this Park;" then follows: "A Song of Nature—Pan, the Earth God, answers to the harmony and magic tones sung to the lyre by sweet harmony." The mammoth figure of Pan is in a half reclining position; the female figure who partially leans over him is playing a lyre.

In front of the library's entrance in Schenley Park stands the memorial drinking fountain erected to the memory of Christopher L. Magee. It is one of Augustus St. Gaudens' masterpieces, simple in character, but artistic in design—a plain slab of Tennessee marble, fifteen feet in height, with a width of three feet and a depth of two feet; it bears on its face a bronze memorial, inserted upon which is a graceful figure of a female, on her head a laurel wreath, in her hands a horn of plenty. It was dedicated July 4, 1908, and was erected by public subscription at an expense of \$12,000.

Opposite the Library building, by the side of the boulevard in a shady nook, is a Spanish gun captured at Santiago, Cuba, from the battleship "Viscaya," and presented to the city by Charles M. Schwab. On each side of the gun is a mounted iron cannon of heavy calibre. Facing the boulevard, bearing his name, is the bronze statue of Edward M. Bigelow, erected during his lifetime by public subscription for services rendered the city in procuring an adequate system of parks. This conspicuous memorial is placed on a perfect circular artificial mound, four rods in diameter, encased by a wall of solid masonry. The monument proper is of gray granite, a base of imposing size, which on a pedestal sustains the immense bronze statue. The cost of the monument was \$12,746.05, wholly raised by subscription. The dedication of the memorial took place July 4, 1895.

Near the Phipps Conservatory in Schenley Park stands a statue of the Scottish poet, Robert Burns, in Highland costume. The poet is represented with his left hand resting on the handles of a plow, in his right

hand he holds a Scotch thistle, and around the upper part of the granite pedestal is engraved the titles of some of his poems. It was erected in 1914, the site being approved by the Art Commission, April 14, 1913. On the back of the pedestal are the names of the donors—Andrew Carnegie, David M. Kirk, George Landes, James H. Lockhart, Thomas Morrison, Alexander R. Peacock, Robert Pitcairn and James Scott.

Leaving the Burns monument and crossing the bridge over Panther Hollow, facing its further extremity, stands the memorial to the Tenth Pennsylvania Infantry, United States Volunteers. It is arranged in a large semi-circle divided into eight panels, with the name of each company and town from which the members of the regiment was recruited, namely: Mt. Pleasant, Waynesburg, Connellsville, New Brighton, Uniontown, Monongahela, Greensburg, and Washington. Though Pittsburgh had only a few representatives in the regiment, by vote of the above towns it was decided to place the memorial in Schenley Park. The Tenth was one of the few volunteer regiments that saw active war service in the Spanish-American War. It was mustered into service May 12, 1898, and embarked from San Francisco, California, for the Philippine Islands, June 15, 1898. It took part in a dozen engagements in and around Manila. In front of the middle of the semi-circle containing the panels is a bronze statue of Colonel Alexander LeRoy Hawkins, a Civil War veteran, who commanded the regiment during the campaign in the Philippine Islands, and who died on the United States transport "Senator" on the homeward bound voyage, July 18, 1899.

At the corner of the Grant boulevard is a magnificent public building called the Memorial Hall of Allegheny county. This building was erected by authority of the taxpayers of Allegheny county in honor of the soldiers, sailors and marines who served in the Civil War. The origin of the movement dates back to 1891, when the Allegheny County Grand Army Association agitated the matter. Sentiment soon developed that favored the erection of the memorial, and that it should be of such a character as to represent the wealth, intelligence and patriotic spirit of the great industrial center. Legislation was necessary, and by popular vote it was approved and the constitutionality of the legislative act ordering the election for a popular vote to accept or reject the proposition was approved by the Supreme Court of Pennsylvania in January, 1908. Previous to this, at a public meeting held in January, 1906, by survivors of the Civil War, a Memorial Hall Committee of ten veterans was appointed; this was by the addition of two resident judges of the Courts of Common Pleas of Allegheny County and the three County Commissioners made to consist of fifteen members. The site for the Memorial Hall was purchased of the Schenley Farms Company, and competitive designs for the building were referred to Professor Warren P. Laird, of the University of Pittsburgh. On his decision the architectural design furnished by Palmer and Hornbosted was accepted. The contract for construction was awarded November 25, 1907; the laying of the corner stone with ritualistic ceremonies took place October 2, 1908. The building was completed October 1, 1910, the dedicatory services lasted five days, be-

ginning October 9, 1910. The entire cost of the building and grounds was \$1,700,000.

Memorial Hall is located on a city square with a frontage of 280 feet, extending back 589 feet. The building has an extreme width of 240 feet, with a depth of 210 feet. The exterior is attractive to the eye; the front entrance is flanked by two projecting wings, each containing a room used for meetings of Posts of the Grand Army of the Republic, the encampments of the Union Veteran Legion and other auxiliary organizations. The basement is used as an armory by the Washington Infantry. Over the entrance of Memorial Hall is a statue in bronze representing "America," modeled by the well known artist, Charles Keck. The main entrance foyer, rectangular in form, opens directly to the main auditorium with a seating capacity of 2,500, lighted during the day by plate glass windows twenty feet in height. The banquet hall, with a seating capacity of 750, is reached by staircases and elevators; on the same floor are the rooms of the Memorial Hall Committee, a library, souvenir rooms, office of the superintendent, cloak rooms, kitchens and pantries. The collection of Civil War relics, pamphlets and newspapers is growing rapidly. The library is devoted to books pertaining to the history of the Civil War. Bronze tablets containing the names of the soldiers from Allegheny county arranged by company, regimental and battery rosters, portraits and oil paintings of Civil War commanders, paintings and views of battle scenes and maps of campaigns and battlefields, adorn the walls. The hall is used as a place of meeting for reunions of the survivors of the different veteran organizations of Western Pennsylvania. Allegheny county is the pioneer in the State of this form of memorial to commemorate those who so notably did their part to preserve a united nation in 1861-65.

In the downtown district of Pittsburgh there are no memorials except on Fifth avenue, where a public drinking fountain was erected by the widow of Thomas Howe in his memory. But are not those famous skyscrapers that tower to infinite height above, with the arcades that have made Pittsburgh famous, monuments to those citizens who won their wealth and honor in the progressiveness of the city's industrial life? They are mementoes of the daily life of those who caused their erection, and though many have passed to their eternal rest, their names connected with these architectural improvements of the city will live for centuries to come. One of the magnificent office buildings of the city, erected in 1909, by Henry W. Oliver, is 348 feet high from sidewalk to the cornice, twenty-five stories above the street, fronting 120 feet on Oliver avenue, 212 feet on Smithfield street, and 110 feet on Sixth avenue. What is claimed as one of America's finest buildings was erected in 1900-01 by Henry Clay Frick and named for him. It is twenty-five stories high, the walls finished in white marble, the woodwork mahogany; the stained glass window in the rear of the main entrance is one of John LaFarge's masterpieces. The building occupies the block bounded by Fifth avenue, Grant street, Diamond street and Scrip Alley. Immediately below it on Fifth avenue is the Carnegie Building, named for another of the Iron

City's master workmen; it is connected with the Annex by overhead bridges. There are also the B. F. Jones and Westinghouse buildings, names famous in the progressive life of Pittsburgh. The largest and most elaborate Arcade was built in the heart of the business district of Pittsburgh in 1911, on the site of a mammoth wholesale grocery house built in 1886 by Thomas C. Jenkins, which was entirely consumed by fire in 1907. This arcade is known as the Jenkins, having a frontage of 150 feet on Liberty avenue, 240 feet on Penn avenue, 240 feet on Fifth avenue, and 112 feet on Stanwix street, containing more than ten acres of floor space. It has its own supply of water, ice making, cooling and ventilating plant, and offers within its area a storied town in which merchandise of various kinds are sold. The Fifth Avenue Arcade, a large stone structure, is the oldest, still utilized for arcade purposes; its main entrance is on Fifth avenue. The Union Arcade building, built by Henry Clay Frick, on the former site of St. Peter's Catholic Cathedral, is extensive in its proportions; with hallways of white marble it presents an architectural beauty hard to be surpassed.

In the monumental history of the city the department stores have their place; these magnificent palaces are not only hives of industry, but add to the architectural beauty of the city. In the lower part of the city is the home of the Joseph Horne Company founded by Joseph Horne. He was born in Bedford county, Pennsylvania, January 11, 1826. His parents were of American stock; his grandsire, however, came from Germany to this country during the Revolutionary War and served in the ranks of the patriot army. Young Horne's education was limited to the common schools; he first studied to be a doctor, but relinquished his efforts in a professional line and came to Pittsburgh, where he became a clerk in the store of F. H. Eaton, one of the leading merchants in the dry goods line. Subsequently he purchased the business from his employer and started in 1849 on his own account in a small store on Market street. After several removals, shortly before his death he built the present store on Penn avenue, which embodies every device for the comfort of customers and employees. The business is now conducted by his sons.

Ranking foremost among the principal department stores of America is Kaufmann's, commonly known as "The Big Store." The roots of this immense establishment, which now employs upwards of 3,000 people, were laid in 1867, on the South Side, as a small clothing and furnishing store, known as J. Kaufmann & Brother, afterwards Kaufman Brothers. A second store was in 1878 opened on the North Side. The continual growth of business caused the proprietors to dispose of these branch stores and concentrate their efforts on a single place of business on the present site, corner of Smithfield and Diamond streets. The building they occupied was 123x120 feet, and in 1903 the entire block between Fifth avenue and Diamond street on Smithfield street was secured. Following the acquisition of the property, the entire building was remodeled, the height extended to twelve stories, giving a floor space of 700,000

square feet. The firm incorporated in 1913 under the name of Kaufmann's Department Store, Incorporated.

The Rosenbaum Company began business in 1868, and was for many years on Market street, subsequently occupied all of that block to the corner of Fifth avenue and Market street. The present location is on Sixth street, Liberty and Penn avenues. The firm is housed in a twelve-story building with basement and sub-basement, the latter equipped with mechanical appliances and machinery consisting of an ice-making plant for cold storage, a vacuum pump and electric conveyors. Fourteen passenger elevators and four freight elevators are in constant use, while escalators convey customers to the seventh floor. The tiled roof of the building overlooks the entire downtown section of Pittsburgh, and all the flat region of the North Side, affording excellent view of the rivers and harbor.

In the heart of the downtown retail business section is the firm of Campbell Company, founded in 1869. The firm occupied what was originally the Masonic Temple, which was purchased by the firm on the removal of the Masonic fraternity to their new temple in Bellefield. The old temple was remodeled for department store purposes. In a beautiful building erected by the Henry W. Oliver estate on Ward street, extending from Oliver avenue to Sixth avenue, a store was opened by McCreery & Company of New York City. Frank & Seder's is also one of later stores established on Smithfield street between Fifth avenue and Diamond street.

The new department store building on north west corner of Sixth avenue and Smithfield street is another of the architectural triumphs of Pittsburgh. The building is thirteen stories, with three stories below ground, and was completed and equipped in the short space of eleven months; a noted artist and sculptor collaborated in its design and construction. The building has its electric fountain, an auditorium equipped with a complete stage, a mammoth orchestral organ, children's playground with toboggans, merry-go-rounds, swings, etc., rest and waiting rooms, post office, with numerous telephone stations. The roof of the building is given over to recreational features for the benefit of the employees. Here are rest and music rooms, a well equipped library, smoking and billiard room, a ball court and a large open space for games of various sorts. The building was opened for business March 18, 1914, and housed the Kaufman & Baer Company. On the North Side is a notable building, front occupied for over fifty years as a department store by Boggs & Buhl.

The public hosteleries have aided in the architectural beauty of the city. One of the old landmarks is the Monongahela House, its history running back to the erection of the original hotel on its site in 1839-40. This was when railroad travelling was in its infancy, and the good old days of the stage coach prevailed throughout the land. Pittsburgh being on direct route to the west and southwest, it became a matter of necessity that a hostelry should be constructed in comparison with her sister cities. Boston at this time voiced the excellency of her houses of entertainment,

the American, Revere and Tremont offering first-class accommodations to the travelling public. In the metropolis of the country the old Astor House, the St. Nicholas and Metropolitan, on opposite sides of Broadway, facing each other, were not lacking in attraction to please the tired traveler. In the Quaker City, with their frontage opposite on Chestnut street, were the Continental and Gerard hotels, first-class caterers to those that crossed their threshold. Therefore, to continue this line of first-class houses of entertainment, an establishment was necessary in Pittsburgh to rival, compete and to keep the weary travelers contented on their extended visits to the west and southwest, as on their route westward the Burnett's House at Cincinnati, the Galt House at Louisville, the Planters at St. Louis and the St. Charles at New Orleans, stood with doors opened to extend the comforts and attractions of an ideal home.

The erection of the Monongahela House filled the desired want. It was located at the foot of Smithfield street, on the banks of the Monongahela river, convenient to the steamboat landing. It was for those days "a thing of beauty, a joy forever," containing 210 rooms, with an extensive lobby and office, and was constructed by its first landlord, James Crossan. The fire of 1845 laid it in ashes, but it was rebuilt and opened March 5, 1847. Within its walls it has housed eminent and distinguished citizens of its own and foreign lands, presidents, generals of armies, literary and political celebrities, even royalty has slept beneath its roof, and here it stands to-day a landmark of days past and gone in Pittsburgh. Of the modern hotels, the latest addition is the William Penn Hotel, with its twenty stories above ground and three stories below, having 1,000 rooms, its restaurants including the Italian Room, Georgian Room and Elizabethan Room, all models of artistic architecture. The Fort Pitt Hotel, while not so prepossessing in an architectural view, is a modern building of eleven stories above and two below, with seven hundred rooms. The Hotel Schenley is not only an asset of the architectural beauty of the city, but offers as an extra inducement the attractions of the territory by which it is surrounded. In the Oakland district of the city, in the vicinity of the beauties of Schenley Park, with the surroundings of marvelous monumental and architectural designs, it is itself a creation that holds its own and readily impresses a stranger as a spot to be remembered in his summary of the architectural beauties of Pittsburgh.

In closing this article, a tribute is made to the grandest monument that Pittsburgh possesses. The Great Iron Master's gift to the city of his adopted home stands unrivaled in the historic annals of the country. The erection of the magnificent building that bears his name, devoted exclusively for the benefit of the people, is masterly in its conception as a work of gratitude to His Maker, who blessed his undertakings. It will stand as a perpetual monument for eons and eons to come; rivaling as it does the ancient antiquities of the Old World, it is to be classed with the Parthenon in Athens and the Colosseum in Rome. It stands as a tribute of its noble benefactor for the love of his adopted home and as an offering to Labor, in giving to the descendants of those who aided him in accumu-

lating his vast millions, a large portion of which he distributed during his lifetime for the betterment of humanity. Other citizens of the republic have given of their wealth to science for destroying the scourges of dreadful diseases, to soften the hardships and misfortunes of the masses, but Andrew Carnegie's gifts for the education and the pleasures of mankind stand without a parallel. In the broad domains of this colossal monument all are welcome to roam through its stately halls, with its matchless collection of works of ancient and modern artists and sculptors, its specimens of natural history and curiosities, the barefoot Arabs of the street mingle with those of the better classes, the only restriction being good behavior. Here gather the pupils of the public schools to receive instructions on the various subjects housed within its confines. The foundation thus laid may in the future make Pittsburgh the art center of the country, rivaling those that have for centuries held that honor in European countries. As a monument of man's greatness it will stand for centuries, and if in course of time devastation should follow, the ruins of this architectural triumph of the nineteenth century will commemorate the efforts of one man for the education and enlightenment of his fellow-citizens.



CHAPTER XXVIII.

Coal, Coke, Oil and Gas.

Coal has been an important factor in the make-up of Pittsburgh's immense tonnage from the outlying districts, the annual shipments having aggregated from forty-five to fifty millions of tons, which is about one-eighth of the total production of the United States. The first to discover coal in America was Father Hennepin, the French Jesuit, as early as 1669, near Fort Creve Coeur, near Ottawa, Illinois. There are letters extant stating a bed of coal as early as 1701 was uncovered about twenty miles north of Richmond, Virginia. Coal was known in this early day as sea coal, deriving its name on account of its being mined only in the north of England and shipped by water to London, and to distinguish it from charcoal. In a map of the Ohio Valley, surrounding Pittsburgh, coal is shown, but none anywhere in Western Pennsylvania; this is also true of a map by the noted surveyor Nicholas Scull, published in 1759. Yet coal was prospected for in this section of the province as early as 1758, as appears from instructions of Colonel Henry Bouquet to Colonel Burd, to examine the country in the neighborhood of Fort Ligonier for sea coal. Burd in his diary, under date of September 21, 1759, states that his detachment moving westward camped at Coal run, that the bottom of the run was entirely paved with stone coal, and on the south of it there was a rock of the finest coal he ever saw, of which he burned a bushel on his fire.

Early writers refer to a seam of coal in Coal Hill, opposite Pittsburgh, which took fire in 1765 or 1766, some claiming it burned for sixteen years. In William Scull's map of Pennsylvania, published in 1770, coal is marked around Pittsburgh; also Washington, in his journal of a tour made that year to the Ohio river, says at Stewart's Crossing on the Youghioghenny river, nearly opposite Connellsville, on Captain William Crawford's plantation, there was a coal mine on the banks of the river which burnt freely, and there was abundance of it. Washington was able to judge of its quality, as the Virginia coal mines were the first worked in America; coal was for sale in Richmond in 1766 at twelve cents a bushel, which was claimed to equal Newcastle (England) coal.

The Penns were aware of the abundance of coal around Pittsburgh as early as 1779, and as late as 1784 retained a large tract known as the "Manor of Pittsburgh" and sold the privilege of mining coal in the "Great Seam" as it was called, on the payment of thirty pounds for each mining lot, a lot extending back to the center of the hill. This was really the beginning of the coal trade in Pittsburgh, and the first in Western Pennsylvania. The first shipment eastward was made by Samuel Boyd in 1804, from a tract of land in Clearfield county. An arkload of coal was sent down the Susquehanna river to Columbia, in Lancaster county, a distance of two hundred and sixty miles. In 1828 a shipment was made to Philadelphia by the Allegheny Coal Company of Clearfield county,

the route being down the Susquehanna river to Port Deposit, thence by Chesapeake bay, and up the Delaware bay to its destination.

The noted English geologist, Sir Charles Lyell, came to the Ohio Valley in April, 1846, to make a special study of its geological formations. He thus expresses himself concerning his discoveries:

I was truly astonished, now that I had entered the hydrographical basin of the Ohio, at beholding the richness of the seams of coal which appeared everywhere on the flanks of the hills and at the bottom of the valleys, and which are accessible in a degree I never witnessed elsewhere. The time has not arrived when the full value of this inexhaustible supply of cheap fuel can be appreciated. To properly estimate the natural advantages of such a region, we must reflect how the three great navigable rivers, such as the Monongahela, Allegheny and Ohio, intersect it and lay open on their banks the level seams of coal. I found at Brownsville a belt ten feet thick of good bituminous coal, commonly called the Pittsburgh seam, breaking out in the river cliffs near the water's edge.

This Pittsburgh seam was a particular vein of coal, the outcrop of which happens to terminate near the city, but which extends in an unbroken body into West Virginia. There are other veins of coal both above and below it, but the Pittsburgh vein is the most valuable. From this vein the best coal in the Western Pennsylvania semi-bituminous fields is obtained, and it is recognized as one of the best veins in the anthracite region of Eastern Pennsylvania. Along the Monongahela river for more than one hundred miles, this particular coal is found in its most accessible form. The three counties of Allegheny, Westmoreland and Fayette, of which Pittsburgh is the distributing center, contain the richest deposit of coal to be found in the United States. It has been calculated there are 8,000,000 tons to every square mile of the 2,500 in the Pittsburgh region. From the days of the first shipments of coal down the Ohio by Thomas Jones, who brought his coal to the river banks on sleds in the winter and floated it down the river in summer, the coal trade of Pittsburgh has steadily increased. This mode of transportation was accelerated in 1845 by the successful venture of David Bushnell in towing three small barges with a cargo of 6,000 bushels to Cincinnati by steam.

The days of flatboats were full of adventure and danger, but did not often prove a financial profit. The flatboat men were met by river pirates, a class always ready for a fray which the boatmen welcomed, as a trip unattended by danger was deemed tame and spiritless. Only when the railroad building era of the early fifties came did the coal industry as we know it begin, and even then it was confined to fields which were in close proximity to the main roads. This was obviated in 1870, when branch railroads connected the coal mines with the main trunk lines. At the present day, railroads have largely monopolized the transportation of coal, though the canal system for a time was a great advantage.

The coke industry is closely allied to the coal industry, though neither is purely a Pittsburgh product, although largely produced by capital of her citizens. Coke, however, more than any other product, has been the making of Pittsburgh as an iron city. Its manufacture and sale has given Southwestern Pennsylvania and particularly Pittsburgh a name throughout America. It was first successfully used in smelting iron by F. H.

Oliphant at the Fairchance furnace in Fayette county, to whom in 1836 the Franklin Institute of Philadelphia awarded a gold medal for manufacturing in 1835 the greatest quantity of iron from one using no other fuel than bituminous coal or coke. Oliphant claimed to have made a hundred tons of metal by the exclusive use of coke, but he afterwards returned to the use of charcoal.

Coke is produced from a soft quality of coal by the simple process of roasting it for from forty-eight to seventy-two hours, with air almost entirely excluded from it while the burning is going on. At the proper time, water is poured into the mouth of the oven on the burning mass; about one thousand gallons is sufficient for an ordinary oven. For foundries and other high grades of work, seventy-two hours coke is used, while for a furnace that made in forty-eight hours or even less time can be used. The coal in the ovens is first lighted by means of wood or burning coal, but if changed promptly after the coke has been drawn, the coal is ignited by the heat retained by the walls of the oven. The oven is wide at the bottom, with sides gradually converging towards the top, and were originally built separate, but have since been built contiguous, thus retaining the heat in a compact form.

The pioneers of the industry were William Turner, Provance McCormick, and James Campbell, who employed in 1841 a stone mason, one John Taylor, to build two ovens on the banks of the Youghiogheny river, a few miles below Connellsville. These ovens were small, holding only between sixty and seventy bushels of coal; the results were unsatisfactory, mainly caused by want of draft; but obstacles were soon overcome, and a fair quality of coke was produced, which was sold in the Cincinnati market for eight cents a bushel. Shipments depended on high waters in the Youghiogheny river; it was not until the Pittsburgh & Connellsville railroad was completed in 1855 that any impetus was given to the industry, at that time there being about twenty-five ovens in the Connellsville section. This section soon became the coke region. It was originally a coal field about forty miles long and three miles wide, though much narrower in many places. The belt extends northeast and southwest across Fayette and Westmoreland counties. This original field contains the best coking coal yet discovered anywhere in the United States. It is of a peculiar quality, soft and porous, easily mined, remarkably full of sulphur, and is dumped into the oven as it is dug from the mines. This saves the process of washing, which most coal is subjected to in order to rid it of sulphur and other impurities, and is an expensive operation. Because of this remarkable feature and its high percentage of carbon, its hardness and consequent ability to bear heavy burdens of ore or iron in the furnaces and foundries, the Connellsville coke has proved to be the best fuel for the manufacture of iron and the smelting of all ores. It is shipped to all parts of the western mining section, and is used for smelting gold and silver on the Pacific slope.

Coke when taken from the oven has no longer the appearance of coal; it is greatly reduced in weight, much harder, of greyish color, and full of small cavities or cells. When struck, it gives forth a ringing sound. The

coal from which it is made is from sixty to one hundred and fifty feet beneath the surface; it is the same vein which in other sections of Pennsylvania is used for fuel for houses and for steam machinery. Why this small deposit should be purer and make better coke is a geological puzzle; in its natural state it is so soft that the weight of limestone and ore or iron in the furnace crushes it down, so that it will not burn, since the blast cannot penetrate it, also the sulphur mixed in its combination damages the iron produced. By the coking process, the sulphur nearly passes away, the product becomes hard, and being full of small cavities the air passes through, making an intensely hot fire.

The coal fields adapted to producing coke has materially increased in the last two decades. Andrew Carnegie experimented in 1871, producing coke from fine or slack coal of the mine dumps, and he built one hundred and twenty ovens near Larimer Station. The experiment proved successful, but was abandoned in 1900, as the demand for slack coal for steam-making no longer made it profitable. The king of the coke region was Henry C. Frick, who was the largest producer in the world, owning nearly 40,000 acres of coal and 12,000 coke ovens, producing 25,000 tons daily. He became connected with the Carnegie interests in 1889, with which he was associated until its consolidation with the United States Steel Trust.

Without the constant use of pumps, the mines would soon be flooded, as there is no natural drainage at the depths of the mines. Therefore constant pumping night and day is added to the cost of coke production; the water pumped from the mines cannot be used in the cooling process of the molten coke on account of its impurities, therefore a system of pure water works has to be constructed, which is attended with great expense. Most of the mines are equipped with improved electric machinery, and the same power is used in pumping, in drawing the coal, and hoisting to the surface. Some mines are not equipped by electric appliances, and the hauling is done by mules as in the early days.

The existence of coal oil in Western Pennsylvania was known even at its first settlement. The Indians used it for many years antedating the appearance of the white settler. Soldiers on their way to Fort Pitt previous to the Revolutionary War, stopped and bathed their joints with "Seneca oil," named for that tribe of savages, obtained on the Conemaugh river. The oil was collected from the surface of the water where it bubbled out of the ground. John Gibson in 1829 while boring for salt struck a pure article of oil at the depth of two hundred and seven feet, the well yielding about a barrel a day. During the thirties and forties of the last century the crude oil was kept for sale in the drug stores of Pittsburgh and Allegheny City. It was advertised in 1851 by S. M. Kier under the name of Rock Oil, for the cure of various diseases, particularly rheumatism. In that year, though handicapped for the want of some method to refine it, an attempt was made to produce oil for commercial purposes. Several companies were formed, and the second refinery in the United States was erected in 1857 at Allegheny City by W. McKeown. Two years later the Drake Well, the first oil well in the

fields of Western Pennsylvania, was sunk, and from that time forward the development of the oil industry was phenomenal. The shipment of oil on the Allegheny river in 1859 to Pittsburgh was 7,037 barrels, three years later it had reached 171,774 barrels, and by February, 1865, there were sixty-three companies with a capital of \$21,610,000 operating in Pittsburgh and vicinity, producing nearly 30,000 barrels weekly.

Pittsburgh soon became the great petroleum market of the West, regulating the markets of the East. The mania for oil speculation spread to other sections, and in January, 1866, an Exchange was established which became the scene of heavy stock operations. In addition there were the Pittsburgh Petroleum Association, established in 1867, and the Brokers' Association, followed by others in the succeeding years. The development of the Pennsylvania oil fields made Pittsburgh the center market for the supply of the equipment necessary in the working of these fields and taking care of their product. The Oil Well Supply Company was organized to fill this want, with its main offices in Pittsburgh, and mammoth plants located in divers parts of the country. Derrick rigs were made at Parkersburg, West Virginia; sucker rods at Van Wert, Ohio; Poplar Bluffs, Missouri; and Memphis, Tennessee; stores and agencies were maintained in all oil producing territories. By the consolidation of the different independent refining interests into the Standard Oil Company, Pittsburgh lost her prestige as a petroleum center in the eighties of past century in favor of Cleveland, Ohio, then the headquarters of those interested in the corporation.

Natural gas was also known to the early settlers, as from time to time evidence of its existence was revealed. The most remarkable fact is that no value was set upon it until comparatively recent years. Even after wells were bored for oil producing, large quantities of gas were wantonly burned, and its value still remained unheeded. It was during the decade of the thirties that sufficient gas was obtained from a well in what is now known as the South Side to furnish a large hotel with light, and similar cases soon became common in Western Pennsylvania. There was scarcely an oil well dug that did not exhibit evidences of gas; nearly all oil springs had accumulations of gas; finally the gas began to be utilized in a small way for the lighting and heating of private houses. Shortly after the removing of the oil refining business, Pittsburgh commenced to use natural gas for domestic purposes.

Early in the sixties, natural gas was used in West Virginia in burning fire brick, and equally early it was used in the potteries at East Liverpool, Ohio. To a limited extent it was used in 1875 at Spang, Chalfant & Company's plant at Whitney, a suburb of Pittsburgh. In that year the Natural Gas Company, Limited, was organized to convey gas to Pittsburgh from the Butler county oil fields. The project was looked upon as impracticable, and matters laid dormant for several years. But in this instance, as in many others, the levelheaded and progressive men won out. In May, 1884, George Westinghouse organized the Philadelphia Company for the purpose of supplying fuel and illumination to manufactories, commercial establishments and residences of Pittsburgh.

The city was connected by a pipe line with the Murrysfield, and other gas wells nearer the city were utilized. Other companies were organized, pipe lines laid, and soon they radiated from Pittsburgh like the spokes of a wheel. The introduction of natural gas brought a great change to Pittsburgh. People wondered why such a profitable gift of nature as convenient as it was in its uses, should for so many years have laid dormant. The hesitancy of the people to use natural gas, to resist its usefulness and importance, is unexplainable. After the enterprise was fully inaugurated and its success insured, it did not lack for supporters. Large sums of money were invested in connecting pipe lines, storage reservoirs and other equipments, and the Twin Cities were mainly heated and lighted by the natural product. Gas has been piped eastward, and is accessible in almost every section of Western Pennsylvania. It was estimated that Pittsburgh in the years preceding 1884 used three million tons of bituminous coal annually, and after natural gas was introduced, the consumption at once fell off to less than million tons. In generating steam and house warming it is a cleaner, cheaper and safer fuel than coal, and it makes better iron, steel and glass than can yet be made by coal.



CHAPTER XXIX.

The Benevolent Institutions.

Pittsburgh almost from the beginning took public action as to care for its poor and helpless, and laws were passed providing for the raising of funds to be devoted to that purpose. Owing to many emigrants bound West in 1818 becoming stranded, Pittsburgh built her first poorhouse, though there was much complaint by her citizens at the cost, the city spending in that year at least \$3,000 for the care of the poor. The poorhouse, which stood half a mile northwest of Allegheny City, had the reputation of being the best institution of the kind west of the mountains. The house could accommodate about thirty persons; the inmates were kept clean, and the house was well regulated. The cost for the year ending March 31, 1827, was nearly \$2,000.

The earliest movement to establish an asylum for orphans was made in April, 1832, when a number of ladies of Pittsburgh and Allegheny City assembled at the house of Rev. Joseph Stockton. Little was accomplished, and at a second meeting held later in the month a committee was appointed to memorialize the legislature for a charter and to solicit contributions to aid the undertaking. On June 27, 1832, a house was opened on Montgomery avenue, Allegheny City, with two orphan children. An act of incorporation was obtained from the Assembly, March 20, 1834, under the name of the Orphan Asylum Society of Pittsburgh and Allegheny, being the first institution of the kind in Western Pennsylvania. The first board of management consisted of ladies, as follows: Elizabeth F. Denny, Anna Halsey, Mary Robinson, Elizabeth Tiernan, Mary Wilkins, Marion Young, Margaret George, Margaret Bruce, Hannah Higby, Elizabeth P. Halsey, Mary A. S. Baird, Susan K. Wade and Isabella Simpson. Under the act of incorporation, every female paying one dollar into the treasury became a member as long as the subscription was continued: the payment of fifty dollars made a life member. The income of the institution was limited to \$8,000, but afterwards was increased to \$25,000. The name of the institution was changed to the Protestant Orphan Asylum of Pittsburgh and Allegheny, March 20, 1872, but on consolidation of the cities their names were taken from the title. The buildings of the asylum on Ridge and Grant avenues were completed in 1866. The institution is a purely benevolent one, and is supported by contributions. Among the largest of the early bequests was from the estate of Charles Brewer, amounting to \$52,500. Orphans of Civil War soldiers were cared for, the State appropriating \$102.50 each; the total received up to 1875 was \$78,927.55. These orphans were withdrawn from the institution in 1876.

For forty-five years, Mrs. Elizabeth F. Denny was president of the Asylum; on her death in 1878, her daughter, Mrs. Elizabeth D. McKnight, was chosen her successor. The latter's death in 1897 caused Mrs. Felix R. Brunot to become president; her death occurred within

two years, and Mrs. Letitia Holmes became her successor. The Ridge avenue property was sold in 1909 for \$100,000, and temporary quarters were secured on the University grounds on Perryville avenue, and afterwards purchased. This property consisted of a handsome central building and several smaller ones grouped about, with eight acres of ground, affording spacious playgrounds. A country home is maintained, called the Allison Park Farm. Mrs. Holmes after serving as president for sixteen years, died March 1, 1914, and was succeeded by Mrs. William L. Davis. The buildings of the asylum were put in through repair in 1915. This is one of the noblest institutions in Pittsburgh. From a small beginning when it opened its door to two poor orphans, it has seen thousands pass through its portals whose sufferings have been mitigated by kindly hearts and hands, placing in the world many worthy and faithful citizens. The assets of the institution have grown from the fifty cents in 1832 that Mrs. Elizabeth Tiernan contributed, to reach in value of real estate and investments over \$1,100,000.

The Pittsburgh Provident Society was organized in 1839 with Thomas Bakewell as president. Its object was to furnish unfortunates during the winter months with soup, light lunch, and other necessities. There was also in existence a German society to relieve the wants of emigrants from Germany. In January, 1838, a society was formed to assist indigent females; this was one of the most effective of the early organizations for assisting the poor.

Pittsburgh erected her first poorhouse in compliance with an act of incorporation granted by the Assembly in 1847; authority was given to issue bonds and levy a special tax for its support. It was an independent corporation, guided solely by its charter; the city poor tax in 1846 amounted to five mills on the dollar, but in 1847 under the new law the tax was reduced to two mills. The construction of a spacious poorhouse was commenced in 1854, on the left bank of the Monongahela river, in the township of Mifflin, about eight miles from the City Hall. The farm on which it was located consisted of one hundred and fifty acres, valued at \$125,000, well watered by five springs. This location is now in the heart of the thriving borough of Homestead. The present Pittsburgh City Home and Hospital is located at Mayview, Pennsylvania. The city of Allegheny in accordance with an act of the Assembly approved April 9, 1844, purchased a farm in Shaler township, and erected suitable buildings for the support and employment of the poor. Inmates were admitted in February, 1845. The poor farm was about two miles from the city, and in 1867 it was divided into house lots for a sum sufficient to buy a new farm at Claremont, in O'Hara township, of ninety-six acres, which was first occupied July 29, 1873.

The Pittsburgh and Allegheny Home for the Friendless was organized February 26, 1861, by ladies of the Pittsburgh and Allegheny Relief Society. It was for the purpose of establishing a home for children who could not be admitted into the Orphan Asylum, also to provide a temporary home for women of good character out of employment. A suitable building was rented and a board of managers labored with an

untiring energy until an income of \$940 was secured from an endowment fund, and property was purchased on the corner of Washington street and Church avenue, where buildings of the value of \$40,000 were erected. The institution is still maintaining its field of usefulness, and the summer home which Captain J. J. Vandergrift gave for these waifs in Alpsville is still utilized. While this Home for the Friendless is an endowed institution, it is partly dependent on State appropriations and the generosity of the community.

The Bethany Home, situated on Center street, was founded in 1886 by Mary E. Moorhead. In the language of the founder, "Bethany Home has been given to the Lord for His use." It is a school in a home for the growth and development of Christ in the life and work of the Christian. A branch was opened in 1894 to be devoted to the special publication of literature upon the deeper truths of the Gospel for free distribution, and sent to all quarters of the world. Flora C. Sweet is the superintendent.

The Bethesada Home was organized to minister to the reformation of fallen women. It opened its doors in 1890, on Colwell street, and is now located on Liverpool street, managed by capable women, supported by appropriations from the State and contributions of citizens, and continuing to do efficiently the work for which it was designed.

The Curtis Home for Destitute Women and Children was chartered in 1893 as the Moorhead's Women's Christian Temperance Union, its title being changed in 1897. It was brought into existence on account of women and children who became destitute through the panic of 1892. The work became permanent, and is recognized by the State, which at various times has made moderate appropriations for its maintenance. It is known at the present day as the Curtis Home for Children, and is located on Western avenue.

The founder in 1893 of the Florence Crittenton Home and Rescue Association was James K. Bakewell, and it was largely supported at first by his efforts. The Ministers' Association of the East End assumed the burden in 1895, and the Home was devoted to the salvation of erring women and the rescue of friendless, unfortunate and wayward girls. The institution was formerly located on Wylie avenue, but is now on Center avenue.

The Kingsley House Association, an incorporated organization, was founded for "settlement work" in 1894 through the energy of Dr. George Hodges, rector of Calvary Church. It is modeled after the Hull House of Chicago and settlements in New York City, its work improving the ethical, social and economic conditions among the less fortunate class. The steadfast and thoughtful work of the men and women who inaugurated and continued the work has been the success of the Kingsley House on Fernando street as a social settlement with its gymnasium, education classes, manual training departments, arts and crafts, social groups, etc. The Lillian Home, a fresh air farm at Valencia, an estate of ninety acres, has been developed to a high state of efficiency. Lillian Rest, a home for convalescents, also at Valencia, was opened and dedi-

cated May 8, 1915; it has the appearance of a resort hotel and is thoroughly equipped as a hospital. The Kingsley House is not what might be designated as a charitable institution. It was organized to exemplify what environment had to do in the formation of character, with an idea of creating a cultured home in a crowded quarter of the city, with no fixed methods, but to adapt itself to the life and needs of its own neighborhood.

As a monument to his daughter, Irene Kaufmann, a prominent merchant of Pittsburgh, Henry Kaufmann, erected a settlement house on Center avenue. The main building is of steel construction with yellow brick, five stories high, containing sixty-seven rooms, on spacious grounds, and was dedicated March 29, 1911. It was known as the Columbian School and Settlement from 1895 to 1910, and was established by the Council of Jewish Women for moral, religious and educational training. It strives to guide the foreign born to American conditions, to stimulate healthy pleasures, broadening civic interests, and creating an ideal of conduct. At the geographical center of the city's most populous district this settlement stands, its doors wide-open, its hands of ministration stretching out in service to all who need its aid.

As a memorial to his wife, on the corner of Henry and Ohio streets, North Side, H. J. Heinz erected in 1914 the Sarah Heinz Settlement House. The settlement work in this connection was begun in 1901 by Howard Heinz, a son of the founder. It started as a local boys' club in a small building on Progress street, and was given the name of "Covode House." Two years later the girls of the neighborhood organized into two groups, the younger as a sewing school, and the older into an evening club. The present building was formally opened June 6, 1915, and a variety of activities were introduced including gymnastic classes, recreative games, athletic competition, basketball, etc.; the girls' department is largely along the lines of homemaking. The attitude of the Sarah Heinz House is coöperative with all other agencies that work for the betterment of the people of the neighborhood.

Among the notable Roman Catholic charities is the House of the Good Shepherd, formerly located on Troy Hill, North Side. The institution was established in 1872 for orphan girls and young women who cannot be cared for or educated by their parents. It is under the charge of a Mother Superior, and is now located on Lincoln avenue. St. Paul's Roman Catholic Orphan Asylum, was founded in 1840. It was formerly located on Tannehill street, but at the beginning of the twentieth century was removed to Idlewood, a suburb, where it owns thirty-five acres of land and buildings reaching \$750,000. It has cared for more than 20,000 children since its foundation, and has a present population of about 1,200. It is supported entirely by charity and is in charge of the Sisters of Mercy.

The Home for Working Girls was founded September 24, 1888, and is under the care of the Sisters of Mercy. The Home was formerly located on Tunnel street, and now on Webster avenue. It has for its object the temporary protection of working girls of good character,

offering them a comfortable and safe boarding house at moderate rates. The Little Sisters of the Poor maintain a large establishment on the corner of Penn avenue and Rebecca street for the care of the aged of both sexes. The St. Joseph Protectory for Homeless Boys on Vallejo street, in charge of Rev. F. J. Huber as superintendent, aims to reclaim boys of Pittsburgh and vicinity who have no homes of their own, teach them trades and other occupations, and when they reach an age to be self-supporting they are expected to pay the actual cost of their board. The Protectory was formally dedicated in May, 1895, and its religious care is in the hands of the Sisters of Mercy. The St. Joseph Home on Pius street is under charge of Sisters of St. Francis, having at present twenty-four inmates. Connected with the Convent of the St. Michael's Roman Catholic Church (German) is St. Michael's Orphan Asylum, on the corner of Fifteenth and Pius streets; the director is Sister M. Bertha. The German population of the city contribute liberally to the support of the St. Joseph's Orphan Asylum, on Troy Hill Road. There are at present 243 orphans under the care of sixteen of the Sisters of Notre Dame, under the superintendence of Sister M. Pardes. The St. Regis Residence for Ladies is a non-sectarian institution on Congress street, under the direction of a board of managers. In charge of the Sisters of the Third Order of St. Francis is the St. Reta Home for Infants, having in their charge 189 infants under the superintendency of Sister M. Cecilia. Toner Institute and Seraphic Home on Castlegate avenue is an industrial school for boys; the 140 inmates are in charge of the Rev. Sigmund Cratz as director, assisted by the Sisters of Divine Providence. The Catholic Women's League of the Diocese of Pittsburgh is an association with a wide field of work; the main object is to unite all Catholic women either as representing bodies or as individual members into one grand federation or union to aid in religious, educational and charitable work, to assist orphans, relieve the poor, provide homes for friendless Catholic children and engage in any other work of zeal or public charity. Another of the activities of the women of Catholic faith is the Ladies' Catholic Benevolent Association.

The winter of 1874-75 was noted for the severity of the weather, causing many cases of destitution which it was impossible to relieve without a systematized organization. Hence the Pittsburgh Association for the Improvement of the Poor was organized, December 15, 1875. The plan was to divide the city into districts, with visitors to investigate cases and endeavor to lift these people to a higher level. The work accomplished is practically incalculable, and has been continued to the present day, the Association having an Industrial Home for Men on Duquesne Way with an industrial department store, a free employment office for women, a fresh air farm for children, also a boys' industrial home, both at Oakdale.

It was in the seventies of the past century that Thomas P. Druit, a journeyman printer, commenced to improve the condition of the street arabs of Pittsburgh employed in selling newspapers. It however took ten years of untiring work on his part to accomplish any definite results.

A meeting of citizens was held March 15, 1885, and two years later a building on Old avenue was temporarily occupied. An agitation was started to raise \$30,000, strongly advocated by the Pittsburgh press; a lot bounded by Forbes and Shingiss streets and Sixth avenue was donated by Mrs. Mary E. Schenley, and a check for \$10,000 was sent by Christopher L. Magee, which with the Press fund made the necessary amount. A charter was obtained in 1888, and a stately and spacious Home was erected for the "Newsies." The boys are taught to be self-supporting, given an education, boarded and lodged in the Pittsburgh's Newsboy Home until they reach the age of sixteen years, and for which they pay for according to their ability.

The German Protestant Orphan Asylum was founded January 5, 1888, by J. H. Demmier, and is managed by a board of directors selected from the different German Protestant churches of Allegheny county. Its present location is on Pauline avenue, Charles Gerke acting as superintendent. Another orphanage, located on Perrysville avenue, North Side, was founded by J. M. Gusky, a leading Hebrew merchant of Pittsburgh. The title is the J. M. Gusky Hebrew Orphanage; it is endowed, the interest of which is available for its maintenance. That noble philanthropist, Jane Holmes, a woman to whom many are grateful, founded the Protestant Home for Incurables on Butler street. It was incorporated in 1883, and provides a home for persons suffering from incurable diseases; is thoroughly equipped, and surrounded by seventeen acres of ground. The annual expenses are met by the income from the endowment, fees and donations. To remove the obloquy of having a purely charitable institution, an admission fee of \$200 is required.

The Home for Aged and Infirm Colored Women, on Leamington avenue, was incorporated in 1885. A modest house was purchased, and the State has appropriated since 1891 \$1,500 annually towards its maintenance. Another charity for the colored race was organized in 1880 by Mrs. Felix Brunot, Miss Jane Holmes and Miss Jane B. Holmes, with the title of Home for Colored Children. The inmates are between two and twelve years. The demands upon the institution are extensive. The State has made liberal allowance for this charity, which is situated on Termon avenue. There is also a Colored Women Relief Association, Coleman Industrial Home for Colored Boys, and the Beulah Rescue Home on Erin street.

The Children's Aid Society of Western Pennsylvania and the Children's Aid Society of Allegheny county are worthy objects of charity. The former dates back to 1885, and is another work of the thoughtful women of Pittsburgh. These societies are just what their titles indicate, a children's aid, and as cases may require they are sent to various institutions. Pittsburgh has day nurseries scattered throughout its limits which take care of the nurslings of working women while they perform their daily labors. The pioneer of this worthy charity was the Children's Temporary House and Day Nursery established in the Old Gilmore Mission building, and opened November 8, 1881. The institution later removed to a commodious and suitable building on Center avenue.

There was organized in 1912 the Federation of the Jewish Philanthropies of Pittsburgh, with a membership of 2,400 persons and an annual income of \$130,000. Its constituted societies are the Montefiore Hospital Association of Western Pennsylvania, the Irene Kaufmann Settlement, the J. M. Guskey Hebrew Orphanage and Home of Western Pennsylvania, the United Hebrew Association, organized in 1870; the Home of Shelter Society; the Emma Farm Association, organized in 1918; the Jewish Home for Aged, organized in 1905; the Council of Jewish Women; the Hebrew Loan Association, organized in 1899; the Hebrew Ladies' Hospital Society, organized in 1898; the Free Burial Association, organized in 1914; besides other Jewish organizations outside of the county.

The Associated Charities of Pittsburgh was organized in 1907 and incorporated the following year. It is a medium for coöperative and coördinated treatment of dependent families and individuals, and is non-sectarian in character. Among other worthy benevolent institutions mention is made of the Episcopal Church Home, on Penn avenue and Fortieth street; the Methodist Episcopal Deaconess House, on Fifth avenue; the Christian Home for Women, on Liverpool street; Holmes' Home for Boys, on Stockton street; the Home for Working Girls, on Watson street; the Industrial Home for Cripple Children, on Dennison avenue; the Ladies' Relief Society of Allegheny County, with headquarters on Federal street; the Louise Home for Babies on Rebecca street; the Pittsburgh Home for Girls, on Ward street; Providence Mission and Rescue, on Sycamore street; and Ward's Run Industrial School. Previous to the organization of the Associated Charities, there was no attempt for coöperation between the different benevolent societies in the city. It was for inception and leadership that the organization was effected. The philanthropic resources of the city have been so managed that every charitable dollar does one hundred cent's worth of deserving work. The interests of the Associated Charities is varied and broad; here a needy family to be helped, then to establish playgrounds and small parks, the accumulation of data for social betterment and stimulating the social conscience among the half that does not know ordinarily how the other half lives. It is also an assistant to the Juvenile Court and the truancy laws; it is a leader in securing tenement laws, inspection, sanitary regulations, factory laws, and legislation to prevent and protect child labor. Frequently it aids in the providing of wholesome food, pure milk and ice for sick babies and children, and in the promotion of summer outings and recreation camps. By its work modern charity takes a wider version, has broader sympathies, and encourages intelligent workers to a joyful spirit in its ministry among the needy classes. Thousands of families have been helped, and many lives saved by its untireless work and ceaseless energy.

The prime mover in the organization of the Young Men's Christian Association was Sir George Williams, of London, England, who in company with twelve young men inaugurated the parent organization, which has grown to be one of the largest associations in the world.

Rumors of this new movement reached Pittsburgh in 1853-54, and articles appeared in the newspapers written by William E. Hunt, a student in the Western Theological Seminary. The introduction of the Association is therefore due to this student, and Robert C. Totten, who called the first meeting looking to an organization of an association. Prominent among those that responded to the call were A. F. Brooks, S. S. Bryan, Daniel Cooper, William Frew, George D. Hall and Thomas H. Lane. An organization was effected, a constitution adopted modeled on the New York Association, and Thomas H. Lane became the first president. The first home of the Association was in rooms over O'Hara & Denny's glass warehouse, corner of Market and Third streets. The growth of the Association was rapid, and at the end of eighteen months the membership was one hundred and ten. With few retrograde movements the Association went briskly forward until the commencement of the Civil War; throughout the years that followed, not enough members were present to form a quorum, so no business could be transacted. In 1865, as many of the former members on account of their devotion to their country were unable to answer the roll call, it was decided to form a new organization under the name of Young Men's Christian Association of Pittsburgh. The few of the old Association that were left came together and voted to dissolve and hand over their name and records to the new Association, which was organized November 26, 1866, and duly incorporated July 8, 1869. At the end of the first year it had enrolled six hundred members, which speedily increased, and in 1883 the Association commenced the erection of their new home on the corner of Penn avenue and Seventh street, the cost of which, \$100,000, was raised by subscription, all being paid before the opening day in April, 1884. In the first thirty years of its existence the presidents were Oliver McClintock, H. Kirke Porter and J. F. Robinson; and four branches were opened, namely: Lawrenceville, East Liberty, Pennsylvania Railroad Department, and South Side. Three other railroad branches have been opened; one at Pitcairn, on the Pennsylvania railroad; one on the South Side, for the Monongahela division of the Pennsylvania road and one at McKees Rock, on the Pittsburgh & Lake Erie branch, housed in the passenger station. A colored men's branch has also been established; North Borough Branch at Bellevue; a couple of branches devoted to boys; a branch at the University of Pittsburgh; and the Manchester Community on the North Side, besides others in the different boroughs of the country. The president of the Association is Ralph W. Harbison.

The Young Men's Hebrew Association of Allegheny county is composed and conducted by Jewish young men with the object of dissemination of knowledge on Jewish subjects; to raise a standard of religious thought among those not attracted by the church; to interest the people in general literary subjects by lectures and classes formed for that purpose. A Ladies' Auxiliary assists in the work of the Association. There are barracks of the Salvation Army and the Volunteers of America in the city which are a valuable acquisition in promulgating religious teachings to the masses of the people.

Every movement among people for their betterment has had a small beginning, and the Central Young Women's Christian Association of Pittsburgh and Allegheny is no exception to the rule. It was the outgrowth of several series of entertainments given during the winters of 1888-89, 1889-90, for the purpose of brightening the lives of women who spent long hours every day at work. Various meetings were held, and finally a Young Women's Christian Association was formed, and on June 12, 1891, officers were elected, Mrs. William R. Thompson being chosen for president; she resigned in September, 1891, and was succeeded by Mrs. James B. Scott, who served until May, 1896, when Miss Sarah E. Pence became president, in which office she served until her death, May 19, 1905, Mrs. John G. Holmes became her successor. The Association at first occupied two rooms in Penn avenue; later, a house was obtained in 1894. Larger quarters being needed, the residence of William Thaw on Fifth street was secured. In April, 1895, an organization was formed on the South Side which two years later became a branch, and in October, 1902, another was formed at Lawrenceville and still later one at Wilmerding. A new era now opened for the Association through the inspiring leadership of Mrs. Holmes; a whirlwind campaign for a building and endowment fund was inaugurated April 30, 1907, and through the generosity of Henry C. Frick, who donated \$100,000, contributions were received amounting to \$300,000, of which \$200,000 was utilized for a building fund and the balance for a permanent endowment fund. A six-story building was erected on Chatham street, which is used for transient women guests, at a normal charge for lodgings. Besides the branches already mentioned, there is a Hill Top Branch in Knoxville, East Liberty Branch, a branch in the People's Bank Building in McKeesport, and also others.

The Council of Jewish Women is a religious, educational, philanthropic and civic organization, with headquarters in the heart of the city, and an enrollment of one thousand women representing all walks of life. The council is affiliated with sixteen civic organizations local as well as State, and national Associations. It is one of sixty-nine sections that have national headquarters in New York City, and was organized in Chicago, Illinois, in 1893.

The idea of organizing a Humane Society for Allegheny county originated in 1871 in the mind of Mrs. Caroline Earle White, of Philadelphia. Mrs. White was then president of the Pennsylvania Society for the Prevention of Cruelty to Animals, which she founded, ranking next to Henry Bergh in the development of humane work in America. Later Mrs. White organized the woman's branch of that society, of which she was president for forty-seven years. On February 21, 1871, the Philadelphia society sent Mrs. White and Miss Mary Pennington (later Mrs. Robert W. Smith) to Pittsburgh to endeavor to establish a branch society. A public meeting was held, in which the only tangible result was the procurement from the legislature of an "Act for the Incorporation of a Society on the Prevention of Cruelty to Animals in the County of Allegheny," approved by the governor March 14, 1872. The incorpora-

tors were: Thomas M. Howe, James H. Hopkins, Alexander Bradley, James Park, Jr., Charles J. Clark, John M. Tiernan, Thomas K. Cree, Dr C. G. Hussey, George B. Edwards, Rev. S. B. Reed, John H. Shoenberger, Rt. Rev. John B. Kerfoot, John Rickerston, Joseph Dilworth, Rt. Rev. Bishop Dorrence, James B. Lyon, James P. Barr, Malcolm Hay and Thomas Marshall. Nothing was ever done to carry this charter into effect, no society was organized. The next step in the humane movement in Pittsburgh was the holding of a meeting in City Hall, November 4, 1874, called by the mayor, James Blackmore. The attendance was small; Dr. A. G. Walter was chosen chairman, and Zadok Street, secretary. A letter was read from Mrs. White urging the formation of a society, addresses were made by several citizens favoring an immediate action, and adjournment was taken to meet November 10, 1874, in the rooms of the Young Men's Christian Association. The need of women to promote the work of organization was strongly emphasized by Dr. Walter and Mr. Street in their addresses. At a third meeting held in the same rooms, November 18, 1874, the name adopted for the organization was the Allegheny County Humane Society, and at a meeting held November 24, 1874, the first president, Charles A. Cotton, treasurer of the Dollar Savings Bank, was chosen, with a full staff of officers. The fees for membership had already been established at a previous meeting, the annual dues at five dollars with life membership at one hundred dollars. In August, 1877, work for the protection of children as well as animals was taken up corresponding with like organizations in Philadelphia. The society operated as a branch of the Philadelphia Society of Prevention of Cruelty to Animals until November 16, 1889, when it was chartered as an independent corporation, the charter also extending in its usefulness to the protection of the aged from cruelty and neglect. The Society's headquarters have been transferred at various intervals; a desk space in Chamber of Commerce rooms was its first habitation, this proving unsatisfactory, quarters were secured on Penn avenue where three different localities were utilized, and in 1889 a removal was made to Sixth avenue on the present site of William Penn Hotel, where the society remained until May 2, 1913, when possession was taken of its own fine building on Forbes street, subsequently removing to Bigelow Boulevard. The name of the organization was changed January 20, 1880, to the Western Pennsylvania Humane Society; its successive presidents have been: Charles A. Cotton, Leonard H. Eaton, George Wilson, Joseph G. Walter, and H. Lee Mason, Jr., chosen at the annual meeting June 21, 1916. The superintendents have been Zadok Street, Joel Kerr, Michael J. Dean, Samuel F. O'Brien, Thomas M. Porter, James S. Bell and John S. Ritenour since 1915.

The Animal Rescue League of Pittsburgh was founded in 1909, and incorporated the following year, for the purpose of caring for the friendless, homeless and suffering dumb animal population of the city. A city receiving station was established where about six thousand small animals are handled each year, also a refuge farm near Verona about six miles from Pittsburgh. One of the noble benefactions of Pittsburgh is the

Pittsburgh Natatorium, a gift of Henry Phipps. The building is of stone, and as a bathing establishment its architectural features are modern and of magnificent proportions. A grand staircase leads to a balcony that overlooks a swimming pool ninety feet long and thirty feet wide, with arches and domes of selected Italian marble and tinted tile. The Natatorium contains every convenience for comfort. The pool holds 135,000 gallons of water, supplied by artesian wells on the premises. The Turkish bath department on the second and third floors, is luxuriously furnished, containing a cooling room, hot and steam room, shampooing room, all built of white marble and thoroughly equipped. There is a large dormitory containing one hundred single beds and private single rooms.

Western Pennsylvania Institution for the Instruction of the Deaf and Dumb—This noble institution had its origin in an incident seemingly insignificant, but nevertheless of a most interesting nature. In the summer of 1868 a little deaf and dumb colored boy was taken to a mission Sunday school connected with the Third United Presbyterian Church, Pittsburgh. The superintendent, Mr. Joel Kerr, became deeply interested in the child, who appeared active and intelligent, and he was placed under the instruction of Mr. W. R. Drum, a graduate of the Pennsylvania Institution for the Deaf and Dumb in Philadelphia. A Sunday school for the deaf and dumb was organized as an adjunct to the mission which then met in the public school building on Franklin street, and a number of educated deaf-mutes were secured as teachers. The Rev. John C. Brown, D. D., became interested in the school and its work, and at the suggestion of one of his parishioners, Mr. John Wilson, chairman of the Central Board of Education of the city, the matter was laid before that body and a grant of eight hundred dollars obtained in order that the experiment might be made. The local board of the First Ward gave the use of a room in the public school building on Short street, and the means for procuring books and other requisites were furnished by a few benevolent friends. On the first Monday in September, 1869, *the first day-school for the instruction of the deaf and dumb in the United States was opened with fourteen pupils.*

In consequence of applications from the rural districts of Allegheny county and from a number of the adjoining counties for the admission of pupils, the home which had been established as an adjunct to the school was soon taxed to its utmost capacity. Dr. Worthington, secretary of the Board of State Charities, who had visited both the school and the home a number of times, was so favorably impressed that, unsolicited, he obtained from the legislature an appropriation of two thousand dollars in support of the work. The school and home were visited also by George W. Sharswood, Chief Justice of the Supreme Court of the State, who was for many years president of the board of trustees of the institution in Philadelphia, and who expressed himself as highly gratified with what was being done.

In 1870, James Kelly, a prominent citizen of Allegheny county, offered to give a piece of land for the purpose of founding an institution

for the Deaf and Dumb of Western Pennsylvania, provided twenty thousand dollars should be subscribed to aid in the erection of buildings thereon. A few liberal citizens of Philadelphia soon pledged more than the required amount, and in 1871 a charter was obtained and a board of trustees organized. Subsequently ten acres of valuable land in the neighborhood of Edgewood station, on the Pennsylvania railroad, was deeded to the corporation. Such was the appreciation of the property at the time Mr. Kelly made the deed, that he refused an actual offer of sixty thousand dollars for it. The value of this magnanimous gift can hardly be overestimated, inasmuch as coming as it did at the incipency of the movement, it gave permanence to the effort as perhaps nothing else could have done. Needless to say that the name of James Kelly has passed into the history of the institution, invested with the gratitude and honor of every friend of humanity.

In 1876, through the exertions of the Rev. Dr. Brown, an appropriation of \$16,000 was obtained from the legislature. In the summer of that year the day school was finally closed. Thus ended an experiment which had gained considerable celebrity and had been imitated in a number of the cities of the United States. While it was at the time undoubtedly the best way to meet a pressing necessity, it had become evident, after a protracted trial under the most favorable conditions, that a day school was not sufficient even for the intellectual development of its pupils not to speak of the industrial training which forms an essential part of deaf-mute education. The property given by Mr. Kelly having been invaded by a railroad company and the trustees having become involved in a protracted lawsuit with a powerful corporation, it was necessary to make some provision for the continuance of the work during the period of litigation, and a large brick structure at Turtle Creek, formerly used as a hotel, was found to be the best that could be obtained for the purpose. To these premises thirty-seven acres of land were attached. With Professor James H. Logan as principal and an efficient corps of teachers, the institution was opened in October, 1876. The work prospered, and at the end of four years Professor Logan resigned the position which he had filled so honorably to himself and so usefully to the institution. He was succeeded by Professor John A. McWhorter, formerly a teacher in the Wisconsin institution, and for seven years principal of the Louisiana institution.

Professor McWhorter entered upon his duties with enthusiasm, and the school soon felt the quickening influence of his work. The buildings soon became crowded to their utmost capacity, while numbers seeking admission were of necessity refused. This state of things, together with the fact that there were in the counties of Western Pennsylvania large numbers of deaf-mute children who were growing up without any proper means of instruction, induced the trustees to take action in regard to the erection of a building upon the property given by Mr. Kelly. In the winter of 1881, an appropriation of \$60,000 was obtained from the legislature. A condition attached to this grant required the trustees to provide a similar amount for the same purpose, and until this was done

they were not to be allowed to avail themselves of the bounty of the State. This called for \$19,000 in addition to the property and subscriptions already obtained, but a generous public responded to their appeal and within a short time the necessary amount was complete.

Another prolonged controversy with the Edgewood Railroad Company seemed imminent, and the trustees, in view of the immediate urgency of the case, consented to a compromise. In September, 1882, the railroad company purchased the property and with the proceeds of the sale sixteen and one-third acres of land in the immediate vicinity was secured. The trustees at once adopted measures for the erection of a building on this property, but the work was somewhat delayed by the death of Professor McWhorter, on January 14, 1883. An efficient and conscientious officer and an enthusiastic as well as a highly accomplished instructor of the deaf and dumb, he endeared himself alike to teachers and pupils and won the respect and confidence of the trustees and of the community.

In March, 1883, Professor McWhorter was succeeded by Dr. Thomas MacIntire, one of the most accomplished teachers of the deaf and dumb in the United States, formerly a teacher in the Ohio institution, founder of the Tennessee institution, for twenty-six years principal of the Indiana institution, and for a time principal of the Michigan institution.

Early in July, 1883 work on the building was commenced, the first stone of the foundation being laid on the 19th and early in December the entire building, with the exception of the chapel, was under roof. An arrangement was made with the city authorities of Pittsburgh by which an ample supply of water was obtained, the trustees, however, being required to lay the pipes necessary to make a connection with those of the city. In October, 1884, the school was opened at Edgewood, and on December 17 that year, a formal dedication of the edifice took place, participated in by several prominent educators of the deaf and dumb and a number of leading citizens, in the presence of a large and interested audience. In the following summer Dr. MacIntire was compelled by failing health to resign his position, and on September 25, 1885, he passed away. By his death the deaf and dumb lost a wise and warm-hearted friend and benefactor, and the profession an able counsellor and honored member.

On August 1, 1885, the Rev. Dr. John G. Brown succeeded to the position of principal of the institution, and under his able leadership great advancement was made in all departments. The buildings were completed and equipped, the State generously making an appropriation for a wing, which had been omitted in the interest of economy. By authority of the legislature the unexpended balance of appropriation for education and maintenance was invested in a two-story structure which was set apart for industrial training. Printing was made one of the trades permanently taught, and Mr. Teegarden, the first instructor, began the publication of a small newspaper for circulation in the school. This was at first issued on national holidays under the title of "The Holiday Gazette," but as the boys became more adept in type-setting

it was changed to a monthly paper. Subsequently it became a four-column folio bearing the name of "The Western Pennsylvanian." This is published semi-monthly, and in point of press work and editorial ability is a credit to the foreman and his pupils.

In the spring of 1889, Dr. Brown, compelled thereto by impaired health, tendered his resignation, to take effect as soon as a successor could be elected. The board finally chose Mr. William N. Burt, who had been for many years connected with the institution at Indianapolis, Indiana. A biography of Mr. Burt follows this brief history of the institution.

In the spring of 1892 the board of trustees authorized the erection of a two-story brick building for the industrial training of the girls. It resembles an ordinary dwelling house, equipped with furniture necessary to carry on the usual operations of housekeeping.

For many years the institution enjoyed an abundant supply of natural gas, but the price of this fuel having been greatly increased, it became apparent in the winter of 1892 that we could no longer rely upon it. Before resorting to the use of coal, however, it was necessary to erect a new boiler house and procure new boilers. This building was placed about three hundred feet from the main building in order to afford great security against fire, and to avoid annoyance from smoke and soot. A room was provided in the new boiler house for a dynamo with which to light the institution.

In 1887, the school, following the example of other progressive institutions, provided a teacher of articulation to gather from the regular classes the children who had lost their hearing after they had learned to talk, and give them lessons in speech and lip-reading for short periods every day. It was found, however, that this interrupted the regular classes and that the time allowed was not sufficient. The remedy was found in gathering the semi-mutes and the adept congenital mutes into classes, and employing teachers trained in oral methods to instruct them exclusively, and these classes grew in number.

The need of a hospital becoming apparent, it was thought that no more appropriate use could be made of a part of the money left to the institution by the late William and Jane Holmes than to build with it a well equipped hospital, and thus benefit the unfortunates and raise a lasting memorial to their benevolent friends. The building was completed in 1897, and was formally dedicated June 17 that year.

The change from a sign to an oral school was not a simple matter, and it was apparent that the only way was to erect a new building for the younger children who required special supervision. This was done, the structure including, in addition to a kindergarten, every detail of a complete institution with the exception of a dining room and kitchen, as it was thought that, by placing the new building near the old and connecting them by a corridor, one dining room and kitchen would answer for both.

It should be mentioned, however, that all this was not accomplished until after the institution had suffered a calamity which threatened its

very existence. On December 14, 1899, a fire broke out in the boys' wing. Its origin has always remained unknown, but it was plain at a glance that, despite the efforts of two fire departments, assisted by the officers of the institution, the buildings were doomed to destruction. The older boys lent valuable aid in saving furniture and protecting it from the rain which was falling at the time. The sympathy of the entire community was aroused by the magnitude of the misfortune, and many threw open their houses to the pupils thus rendered homeless. Before the smoke of the smouldering ruins had ceased to rise, the executive committee took action in regard to the rebuilding of the institution and the erection of temporary buildings, and on March 12, 1900, the school was reopened. The attendance soon reached the maximum number it was then possible to accommodate, and the lack of accustomed facilities with which to work was keenly felt, but, despite inconveniences and discomforts everything went bravely on, although it became necessary to occupy the temporary premises for the long space of two years. Prices of building material were at the highest point they had reached in years, and the money at the command of the institution was inadequate to meet the various heavy expenses which must of necessity be incurred. The delay was naturally a great disappointment, and Dr. Brown canvassed the city of Pittsburgh to raise funds for the erection of the building, never ceasing from his labors until he had secured pledges to the amount of \$50,000. More than a thousand dollars was contributed by the public schools and Sunday schools of Pittsburgh, and the past pupils of the institution gave a benefit entertainment in the old city hall by means of which they added more than seven hundred dollars to the fund. The executive committee showed their appreciation of this loyalty by devoting the money to the purchase of art glass windows for the chapel, on one of which they inscribed suitable acknowledgment of the gift.

On March 7, 1901, the excavation for the building was commenced and on May 16 of the same year the cornerstone was laid with appropriate ceremonies in the presence of a large audience. A pleasing feature was the parade of the pupils, each class carrying a banner suitably inscribed. As they approached the building they were met by the trustees and visitors, who joined the procession, and all marched to the scene of the day's exercises.

Shortly before this, the Board of State Charities had recommended the legislature to grant an appropriation of \$150,000 to aid in rebuilding the institution, and application was made to the appropriation committee for that amount. The number of demands made for money at that particular session was unusually large, and the legislature was forced to refuse many and to scale others down to amounts within the income of the State. The friends of the institution in the legislature redoubled their efforts, and one man of marked influence in the upper house appealed to his fellow members not only on the ground of the duty of the State to the institution, but on the ground of friendship to him to vote part of the money asked for, and through this appeal \$50,000 was granted.

On August 7, 1901, work was begun, and on September 29, 1902, the building was in readiness. By November 20 the school was in full possession of its home, although the formal dedication did not take place till May 14, 1903. William Falconer, who was at that time superintendent of city parks, kindly consented to give his services for the ornamentation of the grounds and drew a comprehensive plan which was closely followed. A solarium was added to the hospital, and a well was drilled to the depth of two hundred and thirty feet which yielded a plentiful supply of water which analysis showed to be free from disease breeding germs of any kind.

It had long been the desire of the officers of the institution to have a gymnasium, and in the summer of 1908 a way was unexpectedly opened for the gratification of the wish. The late John Porterfield left a large part of his estate to charities of various kind, and the institution being one of the beneficiaries of his generosity, the trustees decided to devote the money to the erection of a gymnasium. In the summer of 1910 the building was completed. For a large and growing library the institution is indebted to the generosity of Mr. Andrew Carnegie, who gave \$5,000 as an endowment, the income of which is year by year spent in the purchase of books.

The institution is now in possession of all the buildings and ground necessary for its peculiar work, the value of which is not less than \$600,000. Its situation and arrangements are admirably adapted to the development of the moral and physical well being of those enjoying its advantages, and are such as to enable them ultimately to stand side by side with their more fortunate comrades in the battle for life.

Among the officers and teachers to whom the institution owes a never-to-be-forgotten debt of gratitude for long and faithful service must be mentioned George M. Teegarden, B. R. Allabough, Linnaeus Roberts and A. U. Downing. Henry Bardes, John J. Baugh and Mr. Branson were long connected with the industrial department of the institution. Miss Jennie L. Cobb, a graduate of Oberlin College, was elected teacher in 1890, and was long one of the most valued members of the force of instructors. Miss Martha A. Clemens for many years filled most admirably the position of matron, and the value of the services of Miss Margaret C. Brown, who took charge of the hospital when the building was erected and long remained at her post duty, was such as cannot easily be expressed in words. For more than twenty years Dr. F. R. Stotler was the school's wise and honored physician. C. F. H. Hawkins and John S. Ramsey were eminently useful as bookkeepers, the former establishing the system of bookkeeping which has prevailed with slight modification to the present time. The institution has been singularly fortunate in its trustees, men who were leaders both in business and in civic affairs. They wisely committed the active management of the school to an executive committee composed of J. Charles Wilson, president; A. H. Childs, vice-president; Edward E. Duff, secretary; and Colonel A. B. Shepherd, all well-known citizens of Pittsburgh, whose devotion to the institution was often given at a sacrifice of their personal

affairs. The office of treasurer was long filled most ably by John R. McCune, whose father, at the organization of the institution, was its financial agent and did much to place it on a solid basis.

The death of Rev. John G. Brown, D. D., which occurred on March 4, 1904, deprived the institution of its first president, and of a friend to whom more than to any other one man it owes its existence. Through his efforts men of prominence were enlisted as friends of the school, and its standing in the community is largely due to his far-sighted wisdom and the implicit confidence with which he was regarded by the people of Pittsburgh. The afflicted children for whom he labored were truly dear to him, and when at the age of fourscore years he passed away, they mourned for him as a loved and honored friend.

On October 31, 1908, John B. Jackson also passed away. For thirty years he had been intimately associated with Dr. Brown as a member of the executive committee, the two forming what was familiarly known as the "Old Guard." His deep interest in the school was manifested by his great regularity in attending the meetings of the committee. The increase of his business responsibilities, which made it necessary for him to resign his official connection with many benevolent enterprises, did not give him more time to devote to the interests of the institution. On the death of Dr. Brown he became president of the board of trustees, an office which he retained to the close of his life. Truly can it be said of these two noble-hearted men that they rest from their labors and their works follow them.

The Western Pennsylvania Institution for the Instruction of the Deaf and Dumb has, under Divine guidance, taken its place as an equal among the various similar institutions of the United States. The promise of its past has been fulfilled in its present, and everything indicates that the future holds still larger possibilities.

Of William N. Burt, Ph. D., it is safe to say that no name would be more quickly recognized, or greeted with a greater degree of cordiality. For over a quarter of a century he has been connected with the Western Pennsylvania Institution for the Instruction for the Deaf and Dumb in the capacity of principal of the school, and by his wise and able fulfillment of the duties of this most important office has firmly intrenched himself in the respect, confidence and affection of his pupils and his colleagues. He was born in Vernon, Indiana, and is a son of Dr. James C. and Nancy (Butler) Burt, the former a practicing physician of Vernon. William N. Burt was educated at Hanover College, Hanover, Indiana, graduating with the class of 1867. Immediately thereafter he began teaching in the State School for the Deaf in Indianapolis, Indiana, maintaining his connection with the institution for twenty-two years. In 1889 he was elected principal of the school of the Western Pennsylvania Institution for the Instruction of the Deaf and Dumb at Edgewood, Pennsylvania, and this office he has retained to the present time. Dr. Burt's record of large-minded and whole-hearted devotion to his noble work is incorporated with the history of the institution in the up-building of which he has played a part so useful to the school and so highly honorable to himself.

The Western Pennsylvania Institution for the Blind is in no sense a home or retreat for aged or infirm blind people, nor is it a hospital for the treatment of the eyes, but strictly an educational institution. It is for the special benefit of the blind youth of Western Pennsylvania. The story of its beginning dates back to 1885, when Miss Jane Holmes, a philanthropic Pittsburgh lady distinguished for her wise benevolence, died and bequeathed the sum of \$20,000 for the purpose of establishing an institution for the blind, on condition that the citizens subscribe \$25,000, and that steps be taken to organize the institution within two years. In a short time subscriptions were secured to comply with the terms of Miss Holmes' will, and the school was opened October 15, 1890, in a large house on Forty-second street. Through the offices of Colonel William A. Herron and other friends, Mrs. Mary E. Schenley donated a plot of ground of five and one-tenth acres on Bellefield avenue. The cornerstone of a new building was laid November 25, 1892, and on April 24, 1894, the pupils and staff were transferred from the old school. The institution received from John Porterfield, one of the executors of Miss Holmes, a legacy of \$25,000, and, like Miss Holmes, he made the institution a residuary legatee from which almost \$70,000 was realized, and about \$77,000 was secured from Miss Holmes' estate. A portion of the money left by Mr. Porterfield was devoted to the erection of a gymnasium and swimming pool which was named the Porterfield Memorial Gymnasium, and was dedicated in November, 1908. The remainder was expended in paying the half cost of a Kindergarten Building dedicated in June, 1910. The State furnished the money to erect a Hospital and Industrial Building, which was dedicated in June, 1910. The institution is free and non-sectarian; pupils must be of school age, capable of an education, and free from chronic infection. The course of study is similar to that given in the public and high schools. Instructions are also given in vocal and instrumental music, industrial and household occupations, and in swimming, athletics and gymnastics. The first president of the board of directors was Colonel Archibald M. Marshall, who presided for a decade of years and was succeeded by Colonel William A. Herron, who after serving three years in turn was succeeded by Rev. J. G. Brown, and in April, 1914, H. Kirke Porter, whose death occurred in 1921, became president. The silver anniversary of the institution was celebrated November 19, 1915. There have been but two superintendents of the institution—Hiram B. Jacobs, and the present incumbent, Thomas E. McAloney.

In closing this article, a tribute should be paid to those ladies of Pittsburgh whose devotion to the charities of the city constituted their life's work. The pioneer in these movements, Mrs. Harman Denny, simply followed in the footsteps of her mother, Mrs. James O'Hara, who established a Relief Society for the Poor in the early days of Pittsburgh. Mrs. Denny was born in the last decade of the eighteenth century, and for fifteen years and during the dark days of the Civil War was president of the Old Relief Society; she also founded and was the first president of the Pittsburgh and Allegheny Orphan Asylum, the first regularly organized institution of the twin cities. Her five daughters all may be

termed pioneers in the organized charity work, which in the hands of their successors has attained such wonderful dimensions. Miss Jane Holmes, well known to Pittsburgh residents as "Lady Bountiful," had a daily round of calls from her "poor friends." In 1880 a young girl dying of consumption, without friends or place of shelter, appealed to her for aid. No hospital would shelter her or any charitable institution give her a home; but she found a friend in Miss Holmes, and from the day she took her to care for, she dreamed and planned for a haven of rest for the last days of her brothers and sisters struck with incurable maladies. Thus her dream and plan came true when she completed an endowed the Home of Incurables. She also founded the Children's Hospital, the Protestant Home for Boys, the Home for Colored Women, and the Episcopal Home, and many other institutions owe to her bounty large endowments aggregating over a million dollars. Her high ambitions fell almost, it seems, by inheritance on her cousin, Miss Jane B. Holmes, who came from Baltimore to reside in Pittsburgh about 1885. She was a very active worker, giving of her time and means joyfully for the founding of the Home for Aged Protestant Women, and later assisted in organizing the Home for Aged Protestants. During her eight years residence in the city she gave \$100,000 to institutions, besides giving all her time and thought for the betterment of mankind. Her belief is exemplified in her last will and testament, that she regarded as her highest duty to distribute money in her possession among the needy. As president of the Home for Aged Protestant Women she succeeded Mrs. Mary Ann Hogg Brunot, the wife of Felix R. Brunot, one of Pittsburgh's noted philanthropists. Mrs. Brunot in her youthful days gave the larger part of her time to philanthropic work. She was president for thirty-five years, from its inception until her death of the original Women's Christian Association. The charitable work done for a half century in Pittsburgh and Allegheny City owed its inspiration to her interest and timely aid, and the knowledge of her acts has been a stimulus not only in America, but in foreign lands. As a member of the City Board of Charities she was brought in contact with men accustomed to deal with problems of social and moral import. A devout member of the Protestant Episcopal Church, she furthered the cause of missions and lent her influence to the founding of the Pittsburgh branch of the Women's Auxiliary to the Board of Missions, and for many years was its active secretary. Her personal attention was not alone given to charitable institutions, but she contributed largely of her wealth. One of the last acts of her life was the gift of \$13,000 for the untainted children of lepers in China. Her activity was not confined to her own church, but her bounty flowed to other churches. It was not her generous gifts which aided most, but the genuine earnestness of her example coupled with her sweet, kindly face, her personal dress being in a quaint old-fashioned simplicity. The Allegheny Orphan Asylum was a daily object of her care. The Widow's Home of Allegheny county was organized by her as a refuge for breadwinners; this charity consisted of sixteen buildings where one hundred worthy poor found shelter at a normal rent, free from grasping landlords of miserable cellars and crowded tenements, for nearly thirty years. Mrs. Brunot was president

of the board of managers. For fifty-three years she labored in the Society for the Relief of the Poor, being most of the time its president. She was deeply interested in the West Penn Hospital, in the Women's Christian Association of Pittsburgh, in the Temporary Home for Destitute Women, in the Home of Aged Protestant Women, in the East Liberty Young Women's Christian Association, in the Colored Orphans' Asylum, in the Protestant Home for Women, the Young Women's Boarding House and the Home for Aged Protestant Couples, and in each of these institutions a gift of one thousand dollars from her was a starting point in their existence. The secret of her power lay in the love she had for the unfortunate, springing from her great kindness of heart, blended with strength of purpose and simplicity of character.

Among the other worthy ladies of Pittsburgh who were charity workers was Mrs. Samuel Jones, who was identified with many large undertakings for the benefit of various charities. Mrs. Samuel McKeen was a "Lady Bountiful" in the variety and extent of her charities. One well known in benevolent matters, was Mrs. Margaret Schoenberger, wife of John H. Schoenberger, whose handsome mansion in Penn avenue, and hospitable doors were never closed to the poor and needy who asked her assistance. The kindly beneficence of Mrs. William Thaw is well known; she joined with her husband in the betterment of thousands of poor and sick men, women, and children in their homes, and general assistance. Mrs. Louise Jeanette Herron was a lady of fine presence and personality, one of independent thought, keen sensibilities, possessing the rare gift of being able to "put herself in other people's places," especially so with the poor, unfortunate and overtempted, her patience with whom was saintly. Her deeds of kindness and words of encouragement, full of inspiration and incentive to hope, encouraged those that were disheartened. Mrs. Herron was identified with the work for humanity preëminently for women, but she gave of her time and energy to establish The Home for Destitute Women. No tribute too high can be spoken of the life of Miss Kate C. McKnight, one of the most useful and noted women of modern years. She was in a manner born independent and under circumstances that made it possible for her to lead a life of ease and social pleasure, but she chose to devote her time, her influence and her strength to the advancement of those who were less fortunate than herself. At a memorial service held after her death, there were present representatives of all organizations with which she was affiliated, many of which were founded and fostered by her. The Newsboys' Home, the Juvenile Court, the Consumers' League, the Child Labor Association and the Civil Club, by their representatives extolled her endeavors as a tower of strength in the organization of their societies and during the years of their existence. The mayor of the city, speaking in praise of her work for the improvement of civic conditions, remarked that in paying honor to her memory the city did but honor itself. There was throughout her entire life a blending of the good, the true and the beautiful, in the character of Miss McKnight, and this was strengthened by a perfect and steadfast faith in the human family and in Pittsburgh.

CHAPTER XXX.

The Chamber of Commerce and Kindred Associations.

Pittsburgh had so increased in population in 1835 that the lack of concerted action relative to trade and commerce was regarded as a hindrance to the best growth of the city. In the winter of 1835-36 the organization of the Pittsburgh Board of Trade was effected for a proper direction of all commercial movements; to encourage and extend the facilities of transportation; to regulate and extend the trade and commerce of the city. Two years later, the Board of Trade, with a reading room in the Merchants' Exchange on Fourth street, was quite a pretentious body. The membership fee was five dollars, and newspapers from all parts of the United States were kept on file. The board dragged on a feeble and precarious existence until February, 1854, when a new organization was effected, a constitution and by-laws were adopted, and officers were elected under the charter of the old Board of Trade. The reports of the board in that year gave a very flattering view of the city's manufacturing and commercial importance. Though the continued drouth had rendered the river unnavigable for five or six months and delayed transportation of manufactured articles, the population had increased to 55,000 and, including Allegheny City and Birmingham, to over 100,000, and the aggregate value of manufactured goods was nearly \$21,000,000. A branch of the mercantile agency of B. Douglass & Company, of New York, had been established in the city about 1852, which had met with considerable opposition by the merchants who did not fully understand its purpose.

The Board of Trade was supplanted by the Chamber of Commerce, chartered July 8, 1876. The first president was Thomas M. Howe; John F. Dravo, William McCreery, J. T. Stockdale, Mark M. Watson, J. K. Moorhead, H. W. Oliver, Jr., J. S. Slagle were vice-presidents; these and A. M. Marshall, Captain R. C. Gray, Joseph D. Weeks, Edward Gregg, C. Meyran, J. G. Siebeneck, Simon Reymer, Dr. David Hostetter, George A. Kelly, T. Brent Sewearingen, G. W. Hailman, C. A. Carpenter, William Frew, Daniel Wallace, S. L. Marvin, M. F. Herron, and Arthur Kirk, were the charter members.

The Chamber of Commerce has always taken a prominent part and been influential in all matters both great and small, that have had to do with the welfare of Pittsburgh; it has been active in development projects, a leader in advocacy of the cabinet departments of Commerce and Labor; active in securing reciprocity in trade with foreign countries, the development of southern industries, the national protection of the Mississippi river levee system, and other improvements of the waterways to the Gulf of Mexico; in the reclamation by irrigation of the arid lands of the west and southwest.

The Chamber of Commerce is a strictly business men's organization, promoting the civic and commercial welfare of the city, State and Nation.

To facilitate its extensive activities, the work is divided into bureaus or departments. There is the Convention Bureau, for laying before commercial and other organizations the advisability of holding their conventions in the city. There is the Traffic and Transportation department, which coöperates between the transportation interests and the shipping public, for increased facilities and rate adjustments. The work of the Charities Endorsement and General Subscription Investigation Committee is a valuable asset to the business man. The Retail Merchants Association and the Wholesale Merchants Association are also among the useful departments. The rooms of the Chamber of Commerce were for many years on the sixteenth floor of the Keenan building on Liberty avenue. In 1917 they removed to their own fifteen-story building on the corner of Smithfield street and Seventh avenue, occupying the entire second floor, about 20,000 square feet of floor space, which provides an auditorium seating five hundred persons, dining, lounging and club rooms. With these accommodations it is second to none of the Chamber of Commerce buildings in Pittsburgh's sister cities. It is a member of the National Board of Trade; its president is Marcus Rauh.

In addition to the Chamber of Commerce, as promoters of the industrial and mercantile interests of Pittsburgh are Board of Trades in different districts of the city. The Pittsburgh Board of Trade, which was chartered April 1, 1901, as the East End Board of Trade, centralizing its efforts for the advantage of the eastern section of the city, occupies its own building on Shady avenue. There were also in 1916 the Hill Top, in the Allentown district; and the Uptown in the Fifth avenue wholesale district. The North Side Board of Trade has blossomed forth as the North Side Chamber of Commerce; the Lawrenceville, Oakland and Duquesne Heights associations with some others have concentrated their activities on the Allied Boards of Trade which came into existence in 1917. Some of the other Boards of Trades are the Hazelwood, Sherdan, and Mt. Washington Heights.

A praiseworthy and admirable organization of young business men of Pittsburgh is the Civic Club of Allegheny County, which takes the place of the former Young Men's Business Club, banded together in a social way along the boosting lines, and the Pittsburgh Commercial Club, which was organized in 1913 for boosting the city and securing equitable freight and passengers rates. The Western Pennsylvania Retail Druggists' Association has its executive offices in Pittsburgh. The association was organized in 1908 to encourage the proper relationship between the druggists and the people, to encourage the study of the science of pharmacy, and to protect the honorable members of the profession.

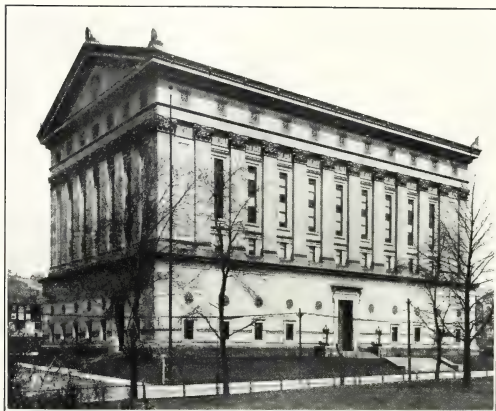
Coextensive with the development of Pittsburgh along the paths of industry and commerce was the formation of several associations or leagues to foster trade, procure new trade, and in every way possible to keep Pittsburgh and her multiplicity affairs to the front. Prominent among these was the Merchants and Manufacturers Association, which had its beginning September 17, 1903, and for over a decade of years and until it went out of existence, was promoting and protecting the manu-

facturing, financial and commercial interests of the city. The Builders' Exchange League, organized in 1894, affiliated with the Builders' League, July 27, 1903. It was an association of master contractors and manufacturers for the encouraging and protection of the building interests; it is in existence at the present day. There were also other exchanges devoted to the protection of industries, such as the Grain and Flour Exchange, Coal Exchange, Iron Exchange, and many others; some of these are still in existence, but with modified titles, as the Stock Exchange, the Grain and Hay Exchange, the Livestock Exchange, the Wholesale Coal Association.

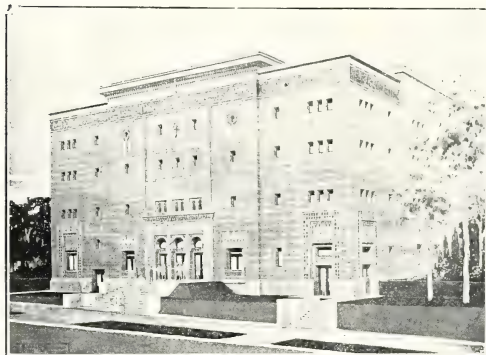
Pittsburgh, like all cities of her class, has its Rotary Club, to which all visiting Rotarians are always welcome to partake of the weekly luncheon which is given regularly. The Rotary Club of Pittsburgh has a membership of over two hundred, each member representing a distinct line of business or profession. It is thoroughly cosmopolitan in character, and is intended to promote friendly intercourse and acquaintance among men representing every line of business endeavors, and interests itself in civic and charitable uplift wherever possible. At the luncheons, addresses are given by outside speakers on topics of current interest, or talks by the members. The latter constitutes an important line of the club's activity, as each member is given an opportunity and expected to address the club along the lines of his own particular business. The club is affiliated with the International Association of Rotary Clubs, and is annually represented at the International Convention.

As a member of the National Association of Credit Men, the Pittsburgh Credit Men's Association was organized for protective and educational purposes, to combine the intelligence and influence of members for protection against imposition and fraud; to agitate and effect changes in the laws of the various States and the United States to the end of uniformity of statutes and protection against abuses now prevalent; to punish commercial fraud whenever legally possible; to bring about mutual improvement with the trade, and to establish closer ties of business association, to the end that the welfare of all may be more highly conserved. The National Association has a membership of 20,000, while that of the Pittsburgh Association is approximately 1,000.

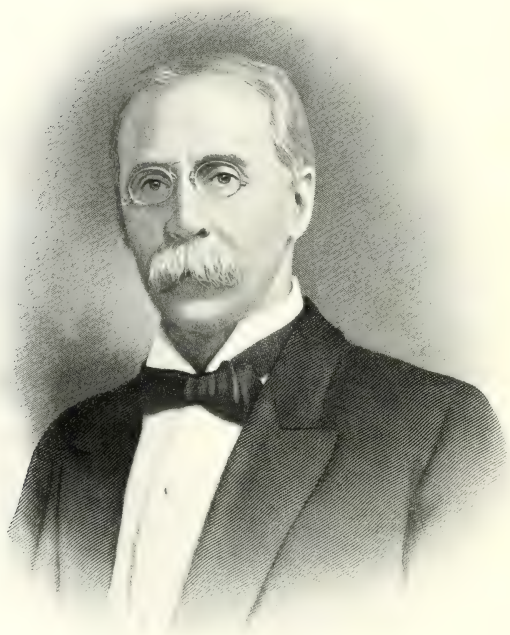




MASONIC TEMPLE



SYRIA TEMPLE, SCHENLEY FARMS



George W. Goodwin

R W Grand Master

1910-1911

CHAPTER XXXI.

Fraternal Life.

That the early citizens were believers in social and fraternal associations is evidenced that on March 24, 1788, the working people organized what became known as the Society of Mechanics. It soon had a large membership, meeting at the residences of its members; Zadoc Cramer was president in 1803. Five years later a circulating library, a cabinet of curiosities and a chemical laboratory were attached to the society. It seems to have become extinct, but in 1830 a new organization with one hundred and eighty members was instituted, of which Rev. Robert Bruce was president, and Thomas Bakewell secretary. Its object was to promote the useful arts and sciences, improvement of its members in practical knowledge, and advancement of popular education. Regular courses of lectures on educational and scientific subjects were given during the winter months.

The first lodge of Free and Accepted Masons was organized in Pittsburgh, December 24, 1785, its number 45. No doubt there were initiations prior to this date, of soldiers stationed at Fort Pitt who were duly entered, passed and raised as members of Royal Arch Lodge, No. 3, of Philadelphia. The records of this lodge show that in the year 1759, John Hoodloss was passed and raised at Fort Pitt by three members of the order. The Provincial Grand Lodge had been in existence for nearly twenty-nine years, and that Freemasonry was practiced in Fort Pitt between 1759 and 1780 is an indisputable fact.

It was on November 21, 1785, when several Ancient York Masons met for the purpose of arranging for the presentation of a petition to the Provincial Grand Lodge for a warrant to hold a lodge in Pittsburgh. This little town in the wilderness at that time contained thirty-six log houses, one stone and one frame house and five small stores, located on the bottom lands along the Monongahela river. The petition was duly sanctioned, and on February 6, 1786, the lodge was constituted with William Tilton as master; Michael Hufforagle, senior warden; and William McClery, junior warden. Among the charter members were John Ash-ton, Robert Galbraith, Isaac Craig, William Butler, Thomas Wylie, Dr. Nathaniel Bedford. Though the fact is disputed, there is no doubt that Lodge No. 45 was the first permanent lodge instituted on the American continent, west of the Allegheny mountains. The second lodge to be instituted in Pittsburgh was Ohio Iodge, No. 113, in 1809, some of the charter members having resigned from Lodge No. 45. Though weakened by this desertion, the members of Lodge No. 45 had courage to undertake a building for lodge purposes. A lot on Wood street was purchased from William McCullogh, and proceedings were immediately taken to erect a building, which was ready for occupancy on St. John the Baptist's Day, 1811. At this time Ohio Lodge No. 113 was meeting in a hall on the southeast corner of the Diamond and Market street; in 1815 it removed

to the building on Wood street, where it continued until May, 1818. The building on Wood street was sold by Lodge No. 45 in 1822 to Benjamin Darlington, who was proprietor of the Mansion House, of which the Masonic building became a part. The lodge room, the ceiling of which was arched and painted with figures of the sun, moon and stars, was not changed, and was the chamber assigned to Marquis Lafayette on his visit to Pittsburgh. There were at this time in Pittsburgh three lodges. Milnor Lodge, No. 165, and a Royal Arch Chapter occupied the same hall on Water, near Ferry street. There was a combined movement by the lodges early in 1823 towards the erection of a hall, but the matter dragged several years until 1830, when a firm of furniture manufacturers, McGill & Darsie, both Masons, erected on the corner of Smithfield and Third streets a building, the upper story of which was fitted up for the fraternity and known as Masonic Hall. At the time of the disastrous fire of April 10, 1845, the building was totally destroyed. Meetings were then held in offices and private residences until August 8, 1845, when a room was secured on the corner of Wood and Third streets, which became known as the Masonic Temple. The last meeting in this room was held by Lodge No. 45, on May 28, 1851, and for the period of less than five years it was used for Masonic purposes by St. John's Lodge, No. 219; Franklin Lodge, No. 221; Solomon Lodge, No. 231; and by Zerrubabel Chapter, No. 162; Pittsburgh Encampment, No. 1; and Mt. Moriah Council, No. 2.

The Masonic Fund Society was organized October 26, 1849, for the purpose of erecting a new Masonic Hall on Fifth avenue, and the cornerstone was laid July 4, 1850. The first meeting of Lodge No. 45 was held in this hall June 25, 1851, and the hall was dedicated October 9, 1851. Masonic Hall was used as a meeting place by all the lodges of the city; the first floor was for mercantile purposes; the second was a favorite concert hall and lecture room, and it was here that the "Swedish Nightingale" captivated her audience. Later it was remodeled into a theatre, and afterwards was used for mercantile purposes. It was completely destroyed by fire, August 12, 1887. After the destruction of the old hall, the trustees of Gourgas Grand Lodge of Perfection tendered the use of their rooms in the Library building on Penn avenue, which were occupied until the fourth floor of the Renshaw building, corner of Liberty avenue and Ninth street, was rented. A Free Masons Hall was erected on the old site, the cornerstone being laid August 12, 1887. The one hundred and twenty-fifth anniversary of the organization of Lodge No. 45 was celebrated with appropriate ceremonies on January 6, 1911; 1,594 members had been initiated and admitted since its organization.

The life of Ohio Lodge, No. 113, is clouded in mystery; there are no substantial records of its meetings. A warrant was issued for its organization, March 6, 1809, naming Nathaniel Bedford worshipful master; Isaac Craig, senior warden, and Thomas Collins, junior warden; but as far as shown by records in the grand secretary's office, the lodge never made any return. It is mentioned in the early directories, but must have passed out of existence in the thirties of the last century. It seems to

have become dissolved about 1825. The Grand Chapter of Pennsylvania was reorganized as an independent body, May 17, 1824, and Royal Arch Chapter, No. 113 (apparently a reorganization of the lodge of that number), applied for a warrant and was reorganized under the jurisdiction of the State body.

Pittsburgh Encampment of Knight Templars, No. 2, was granted a dispensation by Lodge No. 45, February 2, 1814, as there was no Grand Encampment in existence at that time, and the right to create Knight Templars was exercised under the sanction of craft lodge warrants. The Grand Encampment of Knight Templars was reorganized February 15, 1814, Pittsburgh Encampment being represented by proxy. Its authority being recognized, a charter was obtained and the encampment was duly organized with Eminent Sir Francis Bailey, E. G. M. The Grand Encampment of the United States was formed June 20, 1816, and the suspension of the Grand Encampment of Pennsylvania in 1824 opened up the State to the General Grand Body. No action was taken to occupy the territory until May 13, 1847, when a dispensation was granted to Pittsburgh Commandery, No. 1, followed by a charter September 16, 1847, and later charters were granted to No. 2 at Washington and No. 3 at Uniontown. Representatives of these three commanderies met at Brownsville, and formed the Grand Commandery of Pennsylvania under sanction of the Grand Encampment of the United States under date of May 10, 1854.

During the anti-Masonic excitement, the only lodge that survived in Pittsburgh was Lodge No. 45. Milnor Lodge No. 165 discontinued its work, and in 1844 several of its members made efforts to revive the lodge. Attempts were made to get a duplicate of its charter, but without success, as some of the grand officers who had signed the original charter were not living. Finally the old members of Milnor Lodge determined to accept a new number, and St. John's Lodge, No. 219, became its legitimate successor. Its first regular meeting was held April 9, 1846, at the lodge room on the corner of Wood street and Third street, and it became the second permanent lodge in the city. As the city increased in population and wealth the Masonic fraternity grew in prominence and popularity. In 1877 there were in the two cities twenty Blue Lodges, with a membership of 2,897; four Royal Arch Chapters—Zerrubbabel, No. 162, chartered December 14, 1846; Duquesne, No. 193, August 15, 1859; Allegheny, No. 217, instituted February 15, 1859; and Shiloh, chartered January 2, 1877; the total membership was 973; two Councils—Mount Moriah, No. 2, chartered June 5, 1848; and Allegheny, instituted September 7, 1870; membership 311; three Commanderies—Pittsburgh, No. 1; Allegheny, No. 38; and Tancred, No. 48; membership 709. The latter was chartered January 15, 1873, and its name was adopted from a Knight of the Crusades of either an Italian or Sicilian family, who joined the first crusade when only eighteen years of age, being born about 1078, and died of wounds received in a combat with the Saracens in 1112.

In the last half century new lodges have been instituted, and the number has been increased by the chartering of twelve, making a total

number of thirty-two Blue Lodges; new chapters instituted, four, making eight in all. Ascalon Commandery, No. 59, and Duquesne Commandery, No. 72, makes the total of the Knight Templars bodies five. The North Side bodies meet in Masonic Hall, with exception of the German lodge and one at Manchester. The East End and South Side bodies met in halls in their respective localities. The Masonic bodies in the city proper meet in Masonic Temple, in the Schenley Park district. The Order of the Eastern Star is not a Masonic organization, but a secret sisterhood of certain female relatives of Free Masons. There are in the city thirteen lodges of this order.

The growth of the order necessitated the building of the present Masonic Temple on Fifth avenue. The front sets back from the avenue fifty feet, the temple being 200 feet in length and 120 feet in depth. There is ample room on the site to provide for future growth. The cost of the building was \$1,500,000, exclusive of interior decorations. The first floor is arranged for social features; back of a stately foyer are dining room, two reception rooms, and offices. The second floor is devoted to Corinthian Hall, the meeting place for four Chapters of Royal Arch Masons and the Council of Royal and Select Masons. Gothic Hall on this floor is the meeting place of three Commanderies of Knight Templars. The third floor is subdivided into Ionic, Doric, Tudor and Egyptian Halls, where fifteen Blue Lodges meet. The fourth floor is used exclusively by the Ancient Accepted Scottish Rite of Freemasonry, where the four bodies comprising the Lodge of Perfection, the Council of Princes of Jerusalem, the Chapter of Rose Croix, and the Consistory, hold their meetings. The larger apartment is built on the lines of a theatre, seating over 1,200 persons. The temple is really an eight-story building, as on each floor is a mezzanine.

The first fourteen years of the existence of the Ancient Accepted Scottish Rite in the Valley of Pittsburgh was uneventful from its establishment in June, 1852, to April, 1866. The first presiding officer was James W. Hailman. There were in the fifteen years preceding 1867 only twenty-four members initiated in Gourgas Lodge of Perfection, its membership being in that year eighteen; the Pennsylvania Council, Princes of Jerusalem, conferred twenty degrees, and had a membership of twelve. Pittsburgh Chapter of Rose Croix conferred twenty degrees, its membership being thirteen; and Pennsylvania Consistory conferred twenty degrees, its membership numbering seventeen. A half century rolled away which has shown a visible improvement in the membership, and in 1917 the Gourgas Lodge of Perfection membership was 6,057; Pennsylvania Council, Princes of Jerusalem, 6,937; Pittsburgh Chapter of Rose Croix, 6,933; and Pennsylvania Consistory, 7,525.

The Ancient Arabic Order of Nobles, commonly known as Nobles of the Mystic Shrine, consists of those who have received the Knight Templar degree, also those of the Consistory degree of the Ancient and Accepted Scottish Rite. The governing body is the imperial council, having jurisdiction over more than one hundred subordinate temples. Of the seven temples in Pennsylvania, Syria Temple started on its pros-

perous career May 25, 1877; a permanent organization was formed, and four days later Samuel Harper was elected Illustrious Potentate. The growth was not rapid during the next decade, but at length it assumed new vigor, and the first ceremonial meeting was held in Old Library Hall, June 13, 1883. Here they continued for several years, when quarters were secured in Turner Hall, on Forbes street, until 1902, when the first home was built on the corner of Washington and Webster streets. This property in 1911 was exchanged for a lot on Bigelow boulevard, and ceremonials were held in the Exposition buildings, Soldiers' Memorial Hall, and the Schenley Theatre, while downtown headquarters was established at the Monongahela House.

The necessity for a new home, however, soon became apparent, and outlining plans for a building were sent out by the directors of the Syria Improvement Association. Assurance was received of tentative subscriptions, and after visits paid to temples of other jurisdictions, Harris W. Huehl was engaged as architect and plans were submitted for a substantial and commodious home. The site owned by the Temple not being of sufficient dimensions, an additional frontage of thirty feet was purchased, and April 20, 1915, ground was broken for the new building. The cornerstone was laid June 19, 1915. The dedication of the Mosque took place during the week commencing October 23, 1916, the three first days being devoted to Shriners, Masons and Public Days, the formal dedication ceremonies being held on Thursday, October 26, 1916, followed the next evening by a dedication ball, the week festivities ending with a Ladies' and Children's Day.

The Mosque with its two fronts in replica extends from Bigelow boulevard to Lytton avenue, with frontage of 130 feet on each avenue, with a depth of 206 feet and a height to the top of the dome of 81 feet. A grand entrance faces each thoroughfare, intersecting the main concourse on the ground floor. It represents an outlay of half a million dollars, and brings to the famous group of buildings in the Schenley district a distinct type of architecture of the Egyptian school. Its unique setting in the midst of a cluster of white stone and marble structure of classic design flames out like an oriental jewel. The exterior walls are yellows, browns and reds, carried out by polychrome brick, tile and mosaic. Fretted doors, sconces, cornices and embrasures are elaborated by the mystic script of the Koran done in relief in white enameled terra cotta. The continuous inscription of the frieze at the top of the building, repeated twelve times, is the Arabic phrase from the Koran, interpreted "There is no conqueror but God." One of the dominant features of the Temple is the auditorium consisting of a main floor and two low hung balconies with a seating capacity of thirty-eight hundred. Its perfect acoustics have been tested by the melodious tones of Caruso's matchless voice, the Irish tenor, John McCormack, and favorites of the operatic stage. On the north side of the building, property had been secured to Bayard street, thus giving ample room for future improvements. A ladies' auxiliary known as the Syria Ladies' Social Club was organized in March, 1917. Syria Temple is fourth in age and membership in the

country, having in 1919 eight thousand and sixteen members and constantly growing in numbers and enthusiasm.

It was on January 11, 1919, that illustrious Potentate Joseph N. Mackrell, at a meeting of the executive committee of Syria Temple, made a declaration that a permanent memorial should be erected in commemoration of the service of the Nobles of the Temple who participated in the United States army and navy in the World War. There had been 529 members who had performed service, of whom Major Thomas B. Anderson, Lieutenants Clyde A. Troller, Dunning H. Ross, Joseph L. Lang; Corporals Clarence McM. Mack, Charles R. Ewing; Private John Dorrington, and Mechanic Charles W. Crede had made the supreme sacrifice. This suggestion met with approval, and a design executed by the sculptor, G. Moretti, was accepted. The subject of this memorial erected in the Oasis of Pittsburgh was the bronze Sphinx; two guard each portal of the Temple, on which are inscribed the names of the service men. The selection of the Sphinx was appropriate in every way; its origin is shrouded in antiquity, but it has been for centuries a recognized symbol of mystery, silence and eternity, and was used in pairs to guard the approach to a temple. It was used by the most ancient of Egyptians, later was found in Assyria and Phoenicia, and was common to Persian gems. The Greeks, however, adopted it into their mythology, and in their fables it symbolized a monster, literally meaning "strangler." The unveiling and dedication of the Sphinxes and Tablets took place November 1, 1919.

In Pittsburgh, divided into four districts, there are forty-one lodges, fifteen encampments, three cantons Patriarchs Militants, and nineteen Rebekah lodges of the Independent Order of Odd Fellows, a secret fraternal benefit order. The general administration of its laws is designated by the generic term Odd Fellowship. The founder of the order, Thomas Wildey, came from England to the United States in 1818. He was affiliated with a lodge in his native country, and on his arrival at Baltimore, Maryland, he advertised in the newspapers for five members of the Order, so as to form a quorum to establish a lodge in this country. Subsequently four associates were obtained—John Ducan, John Cheatem, John Welch, and Richard Rusworth—and Washington Lodge, No. 1, was instituted. The American order has not incorporated into its polity any features of health or life insurance, but has always paid stated weekly and funeral benefits, distinct from voluntary charity, these payments to members being a right, not a donation; this is a distinguishing trait of American Odd Fellowship. The membership in Pittsburgh includes the most honored and reputable citizens, the lodges being strong, both in members and finances.

Another fraternal order which embodies the same principle in regard to benefits to its members is the Knights of Pythias. This brotherhood was organized to disseminate the principles of friendship, charity and benevolence, and was founded in Washington, D. C., February 19, 1864, by Justus Henry Rathbone and four associate clerks in a department of the government. The order soon had a large membership throughout the country. The theme upon which the society rests is the story of

Damon and Pythias. Washington Lodge, No. 1, is the mother lodge of the order. The organization of the display branch known as the Uniform Rank dates from 1878. The oldest of the nine divisions of the Uniform Rank in Pittsburgh is Fort Pitt Division, No. 9; there are twenty subordinate lodges in the city.

Pittsburgh Lodge, No. 11, Allegheny Lodge, No. 339, and Sheridan Lodge, No. 949, constitute the three lodges of the Benevolent and Protective Order of Elks in the city. The order was the outgrowth of a social and benevolent society called the Jolly Cocks, and was founded in New York City in 1868. A grand lodge was incorporated March 10, 1871, and a constitution adopted; by its provisions, any white male citizen of twenty-one years or over, of good character, is eligible for membership, there being but one lodge instituted in a city, which must have a population of at least five thousand. The reason for three lodges in Pittsburgh is on account of annexations to the city after the formation of the lodge.

The Improved Order of Red Men is an American civic society, with benevolent and social characteristics, organized October 14, 1833. It is founded on the manners, traditions and customs of the aborigines of the Western World. The order's motto is Freedom, Friendship and Charity. The local branches are called Tribes, Degree Councils and Councils of the Degree of Pocahontas. The ritualistic ceremonies are purely American, the three degrees being the adoption, the warrior, the chief. While not as large in membership as some of the other fraternal organizations in the city, it is an important factor in its fraternal life, the number of the subordinate organizations being six tribes.

There are seven courts of the Independent Order of Foresters in Pittsburgh. This order had for its foundation an English organization which was established in 1790, the first court being instituted in this country at Philadelphia in 1832. The order was under English jurisdiction until December 29, 1874, when a subsidiary high court was created in the United States, from which the members of the order seceded August 15, 1889, and the Foresters of America was established as a distinctively American organization.

The Knights of the Golden Eagle, with a motto of Fidelity, Valor and Honor, was founded in Baltimore, Maryland, February 6, 1873. The subordinate lodges, of which there are seven in Pittsburgh, are named castles. The object is to promote the principles of benevolence, to assist members in business, elevate and aid in an advance to a higher life. The military branch of the order is based upon the history of the Crusades, its members being known as Sir Knight, while the ladies are called Companion. There is a sick and funeral benefit to all members in good standing. The female members have for their motto, Faith, Hope and Charity; the subordinate lodges, of which there are six in the city, are named temples.

The Knights of the Maccabees of the World, though possessing a name of great antiquity, is comparatively of recent organization. It was established in 1878 as a secret fraternal and beneficiary association in the city of London, Canada. The name is taken from a chivalrous and religious

people whose history is given in the apocryphal writings of the Old Testament. There are six Tents in Pittsburgh, also a Great Camp. The order in 1914 was united with the Knights of the Modern Maccabees, a rival organization. The Woman Benefit's Association, an adequate rate fraternal order, organized in 1892, was reorganized in 1915 as the Ladies of the Maccabees of the World. The subordinate bodies of the order are called Reviews, of which there are twenty-two in Pittsburgh. It is the first society of its kind to own a home building without an extra expense to its members. The order was founded and is officered and managed solely by women.

The Loyal Order of the Moose, with their executive office, five lodges and a temple in Pittsburgh, was founded in 1880 at Louisville, Kentucky. The order, though beneficiary, furnishes social advantages to its brotherhood without obligation to buy life insurance or pledging him to aid any specific cause. Allegheny Aerie, No. 827, and Pittsburgh Aerie, No. 76, are two lodges of the Fraternal Order of Eagles which dates its foundation from 1895. The Ancient and Illustrious Order of Knights of Malta, with sixteen subordinate lodges and one commandery, claims as its origin that religious military order of mediaeval times, the Order of Saint John, which Napoleon I. caused to become extinct when he made his attack on the island of Malta. Among the most active social and fraternal orders in the city is the Junior Order of United American Mechanics, organized in 1853; it is represented by fifteen subordinate lodges.

Of patriotic societies, Pittsburgh Chapter of the Daughters of the American Revolution has been most active in preserving and perpetuating historic landmarks and marking with bronze tablets places of colonial and revolutionary fame. The society was organized in Washington, D. C., October 11, 1890, to perpetuate the memory of the spirit of the men and women who achieved American Independence. The female descendants of those who rendered material aid as patriot, soldier, sailor or civil officer, are eligible for membership.

The National Society of the Sons of the American Revolution was organized in 1889. In 1893, members in Pittsburgh who had joined the District of Columbia division, discussed the propriety of organizing a local society, which in the year following was perfected at a meeting held at the residence of Colonel William A. Herron. The membership of the society was twenty members. At the first annual meeting, February 22, 1894, the principal address was made by General A. W. Greely, the Arctic explorer. The growth of the society was slow, but owing to the National Congress being held at Pittsburgh in 1901, the chapter progressed vigorously in membership and in 1903 numbered 406. In late years, free from the operations of the Society of Pennsylvania, Sons of the American Revolution, confined to the eastern part of the State, the members of the chapter have interested themselves in marking notable historical sites, and the collection of documents and other mementoes of the Revolutionary War.

Among other orders in the city that are formed on the principles of patriotism, the first and foremost are the thirteen posts of the Grand

Army of the Republic, named in honor of commanders in the Civil War, noted for their devotion to the cause of preserving the Union. Time is fast decimating the ranks of those that responded to their country's need in the direst epoch in her history; those that gathered around the camp-fires are slipping quietly away; and that their memory may ever remain green, the Sons of Veterans of the United States of America was formed, which has six camps located in the city. The Spanish and American War brought into existence camps throughout the country where those who enlisted in the army of the United States could gather in a social way. There are five camps of this description in the city. What was true of this war also is duplicated in the present day, with the formation of the American Legion and the Society of Foreign Wars, who gather together those tried veterans who displayed their willingness and bravery on foreign fields of battle. The Juveniles also follow in the way of their forbears with organizations of patriotic nature in the Boy Scouts of America, Girl Scouts of America, and Juvenile Red Cross associations.

That life insurance on the assessment plan has always been an alluring bait for the organization of fraternal societies in the city, is evidenced by the number of lodges with a large membership. The Improved Order of Heptasophs had at one time thirteen conclaves; while the Ancient Order of United Workmen had thirty-three lodges, but owing to the level rate of assessments these at one time progressive and prominent associations were obliged to discontinue business. In 1875 the fraternal organizations of Pittsburgh were confined to the Masons, Odd Fellows, Knights of Pythias, Red Men, Grand Army of the Republic, American Protestant Association, the Knights of Maccabees, and the Ancient Order of United Workmen. At the present day the number of orders represented in the city number in the neighborhood of fifty, with a membership counting into the thousands.

The most prominent order represented in Pittsburgh at the present day that combines with the social element the life insurance of their members on an assessment plan, is the Royal Arcanum, organized at Boston, Massachusetts, June 23, 1877, with a council of nine members. The order spread rapidly throughout New England, the attraction being a cheap rate of life insurance, the only qualifications of membership being good health and character, the age limit being between twenty-one and fifty-five years, to whom certificates of life insurance were issued for \$1,500 or \$3,000 each. There are in the city thirteen councils of this order. A later day beneficiary order, with eight camps in Pittsburgh, is the Woodmen of the World. The sovereign camp was organized in Omaha, Nebraska, in June, 1890. Its jurisdiction extended over the United States except the eight States of the Pacific Coast. The Knights and Ladies of Honor is represented in Pittsburgh, with two lodges, a beneficiary order paying funeral benefits, merged and consolidated with the North American Union of Chicago, August 24, 1916. There are a number of other orders with the insurance feature prominent in the city. The American Insurance Union has fourteen chapters; the Fraternal Patriotic Americans is represented by sixteen councils; the Order of Independent Americans has thirteen lodges; the Sons and Daughters

of Liberty, twelve lodges; and the Protected Home Circle, organized in 1886, is represented by twenty-four lodges. Among other fraternal orders, some are of a social order, while others combine a semi-insurance obligation—the Ancient Order of the Knights of the Mystic Chain, with seven castles; the Daughters of America, with three councils; the Daughters of St. George, with two lodges; Argyle Lodge, No. 48, of the Daughters of Scotia; the Independent Order of America, two councils; a Nest of the Independent Order of Owls; a lodge of the Independent Order of Puritans, and of the Knights and Ladies of Security. Among the fraternal organizations for the female sex is a temple of the Ladies' Oriental Shrine of North America, and two lodges of Ladies of Loyal Orange Association, which has also ten lodges devoted to male membership. There are two lodges each of the Order of Iroquois, Order of the Shepherds of Bethlehem, the Royal Black Knights of America, and the Royal Neighbors of America, the latter being designated as camps. The Sons of St. George have four lodges, and the Loyal Patriots of America one lodge.

The leading Catholic fraternal organizations in the city are the Ancient Order of Hiberians, with four divisions, and the Knights of Columbus, with five councils. The former traces its origin to those ancient orders into which the people of Ireland were divided for many centuries before the coming of Saint Patrick to that land. The history in America dates back to the organization of the Saint Patrick's Funeral Benefit Society, which in 1836 was established simultaneously in New York City and the anthracite coal regions of Pennsylvania. In 1851 a charter was granted to the New York division under the name of the Ancient Order of Hiberians in America; since that time its membership, consisting of both men and women, has materially increased and includes residents of the United States, Canada, Alaska and Hawaii.

The Knights of Columbus is a fraternal beneficiary society, and was organized under a special charter granted March 29, 1882, by the State of Connecticut. It is opened in its membership only to male Catholics whose pastors testify that they practice the tenets of the church. The society receives insurance members from the age of eighteen to fifty years, and associate or non-insurance members from twenty-one years of age upwards. The insurance assessments are based on a combination step rate with moderate advancements to the age of fifty-five years, thereafter on fifteen-year level rate, with a fully paid-up value at the age of seventy. In addition to its insurance feature the order is devoted to the promotion and protection of Catholic interests and of Catholic men and women. It rendered valuable relief work in the Great World War both in America and abroad. There is in the city a lodge of Catholic Order of Foresters.

The oldest of the Jewish fraternal orders in the city is Jericho Lodge, No. 4, Independent Order of Bnai B'rith (Sons of the Covenant). This order is not confined in its jurisdiction to the United States; lodges are established in all the important cities, but extends into the European, African and Asiatic countries. There is also in the city a lodge of Independent Order of B'rith Chalom.

CHAPTER XXXII.

Club Life.

There was in Old Pittsburgh, clubs and societies of social, political and religious foundation; some of these were formed for a specific purpose and were therefore only temporary in their existence. As early as 1802, The Hibernian Society was organized by citizens of Irish descent, in the same year St. Patrick's Day, for the first time in the city, was celebrated at the house of William Irwin, where the guests were entertained with an elegant banquet. Later there was an Erin Benevolent Society organized, which by its title was evidently for charitable purposes of which Alexander McClurg about 1818 was secretary. The organization of The Pittsburgh Franklin Society took place in 1814 for the encouragement of patriotism, its first celebration being held on the fourth of July in that year. Other early societies was the Adelphi and the Caledonian, the latter being composed of the residents of the city of Scottish descent.

The fair sex in the past, as well as in the present day, had their separate organizations. We find that in 1832 an entertainment given by the Snag Marines, a society of steamboat captains and other officers, turned over to the Female Benevolent Society the net receipts. Prior to this, on July 4, 1830, the proceeds of a celebration given by this society was devoted to the benefit of the heirs of Robert Fulton. A Typographical Society was organized in January, 1833, and among the other early organizations a Horticultural Society, during the decade of the twenties, gave public exhibitions of products with occasional intermissions. An exhibition was given in June, 1835, in the Masonic Fund Hall on Penn street now Penn avenue, premiums were given for the best display of vegetables, fruits and flowers. The Pittsburgh International Improvement Society object is revealed by its name.

One of the most important of the early social organizations was a society of young men established in 1833, which had for its object improvement in education and morals similar in all respects to the Young Men's Christian Association of today. The society waged a relentless warfare upon the theatre, which at this time was gaining a strong foothold upon the amusement loving public of Pittsburgh. During the forties of the last century there was organized by natives of the Eastern States a New England Society. In 1847 Walter Forward was president and in December of that year they celebrated Pilgrim's Day.

Prominent among the social clubs of the present day is the Duquesne Club, "the millionaire club," the leading business men's club of Western Pennsylvania. It was organized June 11, 1873 and incorporated November 28, 1881. The charter members were William Metcalf, H. C. Frick, William W. Young, Henry W. Oliver, Jr., Frank B. Laughlin, William N. Riddle, Charles W. Batchelor, H. D. Denny, Charles E. Speer, George W. Dilworth and Ralph Baggaley. The club house on Sixth avenue is

a remodeled brownstone palace which was opened in May, 1904. It affords to the bachelor every convenience of a refined home on the top-most floor, there being forty-three sleeping rooms with private baths connected. The club employs about two hundred persons while its membership is over fifteen hundred besides five hundred non-resident members.

The Pittsburgh Club, another leading social association, was organized April 5, 1879, and its club house on Penn avenue, the former residence of John H. Shoenberger, a prominent iron manufacturer, is one of the best in the city, including a pretty theatre where amateur theatricals and social functions are held. The Lotus Club on Sidney street, South Side, was organized in 1878 and chartered in 1883. The club owns the property it occupies; the house includes a large assembly hall; among its membership are the leading citizens of the South Side. The Bohemian Club, a high class social organization devoted to music and literature, painting and sculpture was organized in 1891 and met on North Canal street on the North Side, it formerly having a club room on Smithfield street. The meetings of the club are made interesting at intervals by lectures by prominent travelers, astronomers, artists and leading musicians who visit the city. The leading Hebrew social organization is the Concordia Club, it formerly met in a stone club house on East Stockton avenue, North Side, but in later years this exclusive Jewish organization built a palatial home in the Schenley Park district on the corner of Natalie and O'Hara streets. The leading Catholic social club, the Columbus Club, was the inspiration of the Rev. M. M. Sheedy and was chartered November 19, 1887 and occupied rooms on Smithfield street until its new club house on the corner of Sixth avenue and Cherry alley was dedicated Thanksgiving Day, 1894. The cost of the ground and buildings which contained amongst other attractions a well lighted auditorium for meetings and receptions was \$65,000. For business and social reasons this location was afterwards sold and the club became located on the corner of Bellefield avenue and Filmore street. There have been several country clubs. The Oakmont Country Club opened in October, 1904, with a grill room, library and chambers surrounded by the finest of natural scenery, it was a popular resort in the early part of this century. The Allegheny Country Club, formerly on the New Brighton road on the North Side, now at Sewickley; the Linden Club and the Country Club were three exclusive organizations. The Pittsburgh Country Club of the present day is located on the Beechwood boulevard, about a mile from Schenley Park. The Union Club of Pittsburgh has a large membership and occupies the upper floors of the First National Bank Building, it is distinctly a down town club. The German, now the Lincoln Club, disregards wealth, rank and politics but each member must be voted a "Goodfellow." The original membership was mostly of German birth and includes many students of sciences, graduates from German universities and of this country. The club was incorporated April 1, 1905, and its club house on Craft avenue represents an outlay of \$40,000. There are various German singing societies and turn-vereins

about the city; the largest and wealthiest, the Central Turn Verein, erected a club house on the corner of Thackeray and O'Hara streets in the Schenley Farms district which has lately been acquired by the University of Pittsburgh. The Bellefield Club which was organized in 1888 was a social club pure and simple where its members met for chats and to play innocent games of amusements. Their first quarters were on Neville street, but afterwards removed to North Craig street where property was acquired at cost of \$36,000. The club at the present is not active, its property having been disposed of for other purposes.

In the spring of 1881 the newspaper workers of Pittsburgh met and organized the Pittsburgh Press Club. The primary object of the organization was the necessity of taking care of the newspapermen of inadequate means, who became ill or died. The first president was C. N. Shaw and quarters were secured on the third floor of a building on Smithfield street. A charter was obtained in 1885 and though the location of the club has been of migratory character, it is the oldest press club of continuous existence in the country, its doors have never been closed. The Children's Christmas Party is an established institution. The club rooms were located for many years in the Nixon Building, but on May 1, 1921, removed to their own building, on Fourth avenue near Ross street.

There have been in the past many clubs devoted to athletic and other sports and games. The Allegheny County Chess Association was permanently organized in January, 1894. The sole and exclusive object was to encourage the cultivation of the game of chess. The membership was limited to gentlemen and a reading room and library were part of the attractiveness of the headquarters, which was located in the Ferguson block. The present club devoted to lovers of this game, is the Pittsburgh Chess Club with a club room in the downtown district in the Apollo Building. The Iroquois Rifle Club, the Pittsburgh Cricket Club, Pittsburgh Tennis Club with large grounds on Craig street containing a number of courts; the Pittsburgh Yacht Club organized to create a popular sentiment favorable to river sports had fine headquarters afloat on the Monogahela river and a grove on Davis Island. Many of these clubs seem to have passed into oblivion.

In the athletic life of the city there were in the latter part of the last century five prominent clubs: The Duquesne Country and Athletic Club, the Ellsworth Athletic Association; the North Side Athletic Club; the South Pittsburgh Athletic Club and the Pittsburgh Athletic Club. Of these the first mentioned is now known as the Duquesne Athletic Club with rooms on Duquesne Way. The South Pittsburgh Athletic Club has been succeeded by the South Side Athletic Club. The Pittsburgh Athletic Club known in the early days as the P. A. C. was the leading athletic association of the city for many years. It was organized about 1890 and its strength and influence increased annually. Its athletic grounds were admirably arranged and the various events held were always a success, its members obtaining many different championship trophies. The club maintained a successful existence until 1916. The

Pittsburgh Athletic Association was organized about 1910 and the following year built their imposing and spacious building at the corner of Fifth avenue and Bigelow boulevard. The Association is on a solid financial basis, with a large membership. During the epidemic of bicycle riding there was organized in the city a number of clubs, members of which were devotees of that method of transportation. There were also camping, hunting, fishing, canoe, boating, motorboat, sportsmen and golf clubs in unlimited number, many of which are in existence at the present day, there being now over 250 clubs in the Pittsburgh district.

Pittsburgh has not escaped the baseball enthusiasm that has spread throughout the country. Its first professional entrance into the baseball world was in 1877, when it was represented in the International League and established a good record at its first commencement, finishing second in the race. The club however was disbanded in 1878 and until 1882 the sport was dead in the city, in the latter year it became a member of the American Association, the club had a varied career but in 1886 was a close second to St. Louis, who won the pennant. The following year found the club in the National League where it has remained ever since. The Pittsburgh Ball Club management was first known as the Allegheny Baseball Company of Pittsburgh, its name was changed in January, 1887, to the Pittsburgh Athletic Association, limited, and again in January, 1891, it was chartered as the Pittsburgh Athletic Company. The ball park was originally in Allegheny City, later it was directly opposite the Exposition buildings but later Forbes Field, adjoining Schenley Park was secured and became the home of the Pittsburgh Baseball Club, known to the fans as the Pirates. In the matter of its construction and situation the club ground is one of the finest ball parks in the baseball world. The field is named in honor of that sturdy old Scot General, John Forbes, who gave Pittsburgh its name by wresting Fort Duquesne from the French and calling it Fort Pitt. The total seating capacity of the field is approximately 23,000. Many inter-collegiate football games have taken place at Forbes Field, but its name has been written into history through its utilization at the centennial celebration of the founding of the Christian or Disciples Church which met in Pittsburgh, October 11 to 18, 1909, and on Sunday, October 17, a vast concourse gathered at Forbes Field when 25,000 persons partook of communion.

There are in Pittsburgh, houses of the different fraternal organizations in connection with the universities, colleges, schools and seminaries within her midst, and the University Club, with its membership limited to college and university graduates, its handsome club house is located on the Bigelow boulevard, adjoins the Pittsburgh Athletic Association's building.

The Republicans being the predominating party in politics, it would be naturally expected that there are numerous clubs and organizations of that party in the city. The oldest of these clubs is the Americus Republican Club organized in August, 1884, and incorporated in 1886. Its club house is on Smithfield street, while the Young Men's Republican

Tariff Club, another leading political organization, has rooms on Fifth avenue. Among the other minor Republican organizations are the East End Republican, the Washington Heights Republican, Eleventh Ward Republican, C. L. Magee Republican, New Eighth Ward Republican, Republican Association of Pittsburgh, the South Hills Republican, the Twenty-second Ward Republican and the Twenty-fifth Ward Republican clubs.

Among the early Democratic political clubs was one named for Pennsylvania's great statesman, Samuel J. Randall; the prominent club of that political organization of the present day is the Samuel J. Tilden Club.

In the days of yore with the sporting fraternity, the love of the equine predominated, there were several driving and riding clubs, the prominent representative today of those interested in the sport of kings is the Pittsburgh and Allegheny Driving Club with a club house and driving park on Brunot's Island. The driving clubs have been succeeded by the Automobile Club with a large membership with headquarters on Baum boulevard in the East End of the city. There are however social and secret organizations named for animals conducted not only as lodges but are mainly clublike in their attitude to their members. Pittsburgh has two fine structures devoted to such purposes; the Benevolent Protective Order of Elks on Duquesne Way and the Loyal Order of Moose on Penn avenue. The Order of Eagles also have a home on Third avenue besides containing a lodge room for its members, also has added social advantages.

There are labor-unions, trade organizations, professional and scientific associations that have their club activities for the social benefit and entertainment of their members. Prominent among these for many years was the Pittsburgh Architectural Club organized in October, 1896, and incorporated in May, 1900, its avowed purpose being the advancement of architecture and the allied arts; its membership limited to practicing architects, architectural draughtsmen and artists. A school or atelier under the auspices of the Society of Beaux Arts of New York City was maintained for instruction in design for those who did not care to take a complete course of work at the Carnegie Institute of Technology.

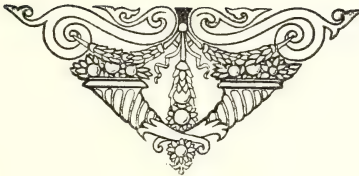
The first meeting of the Engineers' Society of Western Pennsylvania was held January 6, 1880, a constitution was adopted and charter granted March 20, 1880. The charter members were: William Metcalf, A. Gottlieb, Thomas Rodd, E. M. Butz, William McDowell, William Kent and J. H. Harlow. The first named became the first president of the society. The membership on its incorporation was one hundred and ten which has increased to twelve hundred, which includes the names of many engineers of national reputation. The object of the society is the advancement of engineering in its several branches, professional improvements of its members and the encouragement of social intercourse of men of practical science. The first meetings were held on Penn avenue, a removal was made to the Fulton Building, later to the Oliver Building and finally to its present home in the Union Arcade, where the club

rooms, technical library and executive officers are housed. The society takes an active interest in all matters pertaining to national, state and local affairs and also aids in every way in serving the best interests of the engineering profession and the public in general, a civic affairs committee takes an active part in local municipal matters. Twenty technical meetings are held annually, various inspection trips are taken visiting new plants and other points of engineering interests. An annual banquet is given, that of 1921 being the fortieth. At these gatherings speakers of national prominence deliver addresses, the number attending these festivities numbering in the neighborhood of a thousand. The monthly proceedings containing technical papers, presented before the society, is published. The officers of the society for 1920 are W. C. Hawley, president; G. H. Danforth, first vice-president; H. D. James, second vice-president; Kenneth Treschow, secretary, and A. Stucki, treasurer.

The women of Pittsburgh have been active in the social club life of the city. The Woman's Club of Pittsburgh, the oldest in the State, was organized in 1875 and is the first daughter of the mother of women clubs, the Sorosis Club of New York City. The progenitor of the club was Mrs. Helen P. Jenkins, who gave a tea party at which she proposed the forming of a woman's club. The object set forth was to bring women together, interested in art, literature and science, for the purpose of mental culture and whatever attends to the advancement of women. The club was granted a charter in 1907 under the title of the Women's Club of the Greater City of Pittsburgh, its membership being one hundred ladies.

The Twentieth Century Club was organized in October, 1894, its handsome building on the northeast corner of Bigelow and Parkman boulevards was formally opened in the fall of 1911. It is an association of the most cultured women of the city, founded not upon any community of business, art, literature or music, nor to collect those that do not nationally belong together. Among its charter members are Mrs. George Bergwin, Mrs. James R. Mellon, Miss Sarah H. Killikelly, Lillian Mercer Marshall, Mrs. W. N. Frew and others, to the number of twenty. The sponsor of the club was Miss Julia Morgan Harding, its first home was on Penn avenue, later on Duquesne Way. One of the most progressive of the Women's Clubs of the city is the New Era Club of Western Pennsylvania, it has a membership of about three hundred and the object of the club is literary, philosophic, civic and educational. Meetings are held twice a month in McCreery's Department store. The Business Women's Club of Allegheny was organized in April, 1886, and originally called the "Helping Hand Society." The club has a commodious and attractive house on Arch street, the object is to promote the welfare of women, more particularly those dependent on their own efforts for support by cultivating a spirit of fellowship and co-operation on the basis of moral and religious standards without sectarian distinction. The Pittsburgh Teachers' Association, numbering about eleven hundred members, was organized in April, 1904. Its aim is to advance the public schools by improving conditions for teachers and pupils, to

develop public sentiment regarding the dignity of the teacher's profession. The association encourages sociability amongst its members, arranges and manages lecture courses and disburses sick benefits. The organ of the association is a monthly, "The School Bulletin," detailing matters of pedagogical interest.



CHAPTER XXXIII.

Literature.

The entrance of Pittsburgh into the world of letters was heralded by the literary efforts of Hugh H. Brackenridge. He contributed many articles on historical, political, and scientific subjects to the "Pittsburgh Gazette," the editors of which, John Scull and Joseph Hall, largely through his representations were induced to come from Philadelphia to establish a newspaper. Late in the last century, Brackenridge published his best and well known work, "Modern Chivalry," a romance similar to "Don Quixote." It was published in one volume by John Scull, the first book west of the mountains. The author's writings abound in catchy phrases and epigrammatic sentences, for example: "He is a senseless politician that will not yield when he ought, that he may gain where he can." "I am willing that my judgment should be questioned, but not the rectitude of my intentions." "Villainy is always cool; honor and honesty feel with a generous warmth." Brackenridge was the author of several legal works, and was a poet of considerable distinction.

The most important early publication the result of Pittsburgh enterprise was "The Navigator," first published in 1802 by Zadoc Cramer. It was continued for many years, though not without intermission. Cramer also issued "The Pittsburgh Magazine Almanac," and published text books for use of scholars. An almanac, spelling books and similar works were published by John Scull. At the corner of Fourth and Wood streets in 1812 was the publishing house of Patterson & Hopkins, afterwards R. and J. Patterson, and later R. Patterson & Lambdin, who issued "The Honest Man's Almanac" and educational works, among which was a "Treatise of Practical Arithmetic," by Robert Patterson, a professor of mathematics and natural philosophy in the University of Pennsylvania. "The Counting House Assistant," a similar work by James C. Gilleland, was published in 1818 by the same firm. From the press of Cramer, Spear & Eichbaum in 1813 came H. M. Brackenridge's "Views of Louisiana," which had appeared serially in the "Western Gleaner." A directory of Pittsburgh was first published in 1815 by James M. Riddle. While the names of some of the residents of Pittsburgh had appeared in former publications, this was the first attempt at a complete directory of the borough. After an intermission of four years, Mr. Riddle issued another directory, in which he apologized for its not appearing periodically, giving as his excuse want of patronage, and informing delinquent residents that if they did not come forth more liberally the publication would be discontinued; as this is the last directory published by Mr. Riddle, the support could not have encouraged any further efforts. At this time and during the decade of the twenties there were a number of almanac publications which were distributed throughout the western country; they contained advertisements of the city's manufacturers, together with useful miscellaneous matter. Rev. Joseph

Stockton's "The Western Calculator," issued in 1818 from the press of Eichbaum & Johnson, was a new compendious system of practical arithmetic. Two years later, Rev. Andrew Wylie issued a new English grammar, and about the same time James C. Gilleland published a work entitled "Pilot and Geographer," previous to this he was the author of a "Digest of American Mercantile Law."

The first poetaster of native birth was Morgan Neville, a product of the pioneer days of 1786. He became a proprietor and editor of the "Pittsburgh Gazette," and first attracted attention with his poem "Comparisons," in 1818, soon followed by his Maniac's Song, "Apology for Gaiety." He removed in 1829 to Cincinnati, Ohio, where he died in 1839. He acquired wide reputation by his tale, "Mike Finn, the Last of the Boatmen," which appeared in the "Western Souvenir." He was a contributor to the periodicals of the day, a pioneer in literature in the West, a skillful musician, and a patron of art.

The statistical and historical work of Samuel Jones is valuable for the many items of early history of the city which it preserves. In the decades of the thirties and forties, H. M. Brackenridge's abridged history of the War of 1812 was issued by eastern publishers, the demand for which caused the issuing of thirty editions. Taylor's "Register and Directory of Pittsburgh" first made its appearance in 1833, and Johnston & Stockton issued their "American Almanac and Repository of Useful Knowledge" in 1838. About this time, Richard Biddle's "Memoirs of Sebastian Cabot" was placed on the market; a novel by William B. Conway, "The Cottage on the Cliff," came from the press of C. H. McKay & Company; a few years later there was published by Daniel W. Kauffman, "The Early History of Western Pennsylvania." An anti-slavery advocate and temperance reformer, William H. Burleigh, wrote in 1841 a desultory poem entitled "Our Country; Its Dangers and Its Destiny," which had many admirers throughout the United States and was circulated in Europe.

The prose and poetical effusions of Jane G. Swisshelm, who sometimes wrote under the *nom de plume* of Karl Benedict, did more than any other local writer to reform and adjust public opinion on the question of abolition of slavery and woman's rights. Her writings possessed high merit, and were usually iconoclastic in their nature, as her views led her to attack nearly all existing social, domestic and political institutions. Some of her prose writings were full of philosophy, and at times were replete with pungent criticisms on the shams and idiosyncrasies of the day. Miss Swisshelm was born in Pittsburgh, September 6, 1815. Her father, James Cannon, left his family in straitened circumstance when the subject of this narrative was only eight years of age, thus obliging the daughter to work at manual labor and teaching school. At the age of twenty-one years she married James Swisshelm, and with her husband removed two years later to Louisville, Kentucky. Here she became an outspoken opponent of slavery, her first writings attacking the system appearing in 1842 in the "Louisville Journal." She was also a contributor to the "Spirit of Liberty," published in Pittsburgh, articles appearing

under her name favoring abolition of slavery and woman's rights. In 1848 she established the "Pittsburgh Saturday Visitor," which was afterwards merged with the "Pittsburgh Journal." In 1857 she changed her base of operations when, taking Greeley's advice, she "went west," locating at St. Cloud, Minnesota, where she established the "St. Cloud Visitor." Her pronounced views of slavery and woman's rights were not received with approbation in what was then the "Woolly West," which was demonstrated by a mob wrecking her office and dumping the printing outfit into the river. In no ways disconcerted, Miss Swisshelm immediately commenced the publication of the "St. Cloud Democrat," and at the time of the nomination of Abraham Lincoln for President, she spoke and wrote in his behalf and for the principles of which he was the representative. At the breaking out of the Civil War she became one of the first nurses to accompany the Union forces to the front. Mrs. Swisshelm was a prolific writer. Her "Letters to Country Girls" and her autobiography of a "Half a Century" were read with interest throughout the country. Her end came full of peace and happiness; she lived to see the abolition of slavery, but that of woman's rights was to come later. Her death took place at Swissvale, Pennsylvania, July 22, 1884.

In the forties Rev. John Black, D. D., was the author of a book entitled "The Everlasting Kingdom," and late in that decade Neville B. Craig's publication, "Ye Olden Times," and his standard "History of Pittsburgh" were issued in book form. About the same period, Rev. John Tarsey published a "Life of Christ," and a previous capricious controversy between Neville B. Craig and Henry M. Brackenridge, which had appeared in the local papers, was placed in book form and given the title of the "Western Insurrection." Among other works of this talented author were a "Voyage to South America," "History of the West Indies," "Recollections of Persons and Places in the West," etc.

Pittsburgh in the last half of the nineteenth century made but slow progress in literature. Among her writers of the early period was Charles P. Shiras, author of "Redemption of Labor" and other poems; and a drama from his pen, "The Invisible Prince, or the War of the Amazons," was played at the Old Drury Theatre. Thomas B. Plympton, once a member of the staff of the "Pittsburgh Dispatch," wrote many poems of merit of local literature; a fellow associate of the press, Josiah Copley, who was connected with "The Gazette," issued a number of valuable works among which was "Gatherings in Beulah." William G. Johnstone depicted with great fidelity his hardships in the early times of the gold excitement in his work, "The Experiences of a Forty-niner."

The great musical composer, Stephen C. Foster, was usually the author of the verses set to his music. He was in every sense a Pittsburgher; here he was born and brought up, here his melodies that will live longest, were written, and here with his kindred rest his ashes. Born on the fiftieth anniversary of Independence, he was an erratic child, unusually precocious in any line of intellectual pursuits, especially in music and drawing. Several pieces of his music were written in boyhood days, his first published song, "Open Thy Lattice, Love," when he

was about sixteen years old. At nineteen he formed a singing club which met at his father's house and for which he composed songs, the first one being "The Louisiana Belle," soon followed by "Uncle Ned," which remains at the present time as one of the best of his melodies. Although of a poetic temperament, he produced but little that would entitle him to true greatness, were it not for his music. The words fit the melodies, but they do not reveal a high order of poetical talent. The sentiments, however, are beautiful, dealing as they do with the love of home, of mother, wife and sweetheart, and touch the tenderest emotion. Tender pathos and mystic sweetness make his songs truly melodious, and the words written by him are always charming and easy flowing. In his early life he wrote for pastime to entertain his friends, without thinking of adopting song-writing as a profession; "Uncle Ned" and "Oh Susanna" he gave a friend who published them, clearing \$10,000 by the transaction. Foster wrote in all one hundred and sixty songs, many of which became classics in the musical world. Some of them stand first amongst the melodies of the American people and do not diminish in popularity. "The Old Folks at Home," "Old Black Joe," "My Old Kentucky Home," "Come Where My Love Lies Dreaming," and many others, have been translated into nearly all of the European and Asiatic languages. The first of these mentioned was written for Christy, the famous minstrel, and on the first edition of the song his name appears as its author. The only rival of this song in English is that masterpiece of John Howard Payne, "Home, Sweet Home."

Foster was a man of small build, being but five feet seven inches in height, but of great physical courage, quick temper, and great kindness of heart, the idol of his family and the special pride of a cultured and devoted mother. Being of a highly nervous organization, in early life he became addicted to drink, and this misfortune rendered his life extremely gloomy and unfortunate. After his marriage in 1850 he removed to New York, but growing homesick, he returned to the parental home in Pittsburgh, where he remained until 1860, when he returned to New York. Here through his unfortunate desire for stimulants he was soon living in abject poverty. In this unfortunate condition he walked Broadway like a beggar, frequently writing and composing a song in the morning, selling it in the afternoon, and squandering the proceeds, before midnight. His songs were largely the results of sorrows that surrounded him; many of them genuine folk songs. The death of his father occasioned the negro melody "Massa's in the Cold, Cold Ground"; the loss of a beautiful setter brought forth "Old Dog Tray"; a visit to Kentucky, "My Old Kentucky Home." The best and the most pretentious of his compositions is known as "Come Where My Love Lies Dreaming." In 1864 Foster was afflicted with a fever in a cheap hotel in New York; reaching in the dark for a pitcher of water, he fell, cutting his neck on the sharp corner of the pitcher, and was not discovered until the following morning. He recovered slightly, was removed to Bellevue Hospital, where from fever and loss of blood he died, January 13, 1864. He was about to be buried as a pauper when an acquaintance recognized his

body, and his remains were prepared for a more respectable interment and sent to Pittsburgh, where he was buried beside his parents.

Another son of Pittsburgh, Bartley Campbell, gained honor and renown in the dramatic art. Born in what is now the North Side, August 12, 1843, he first turned his attention to the study of the law, but was declared in 1856 to be an unpromising student, and became a reporter on the "Pittsburgh Leader." During the Civil War, being a Democrat in his political faith, he made public speeches in the campaigns of 1863-64, and founded the "Pittsburgh Evening Mail." In 1868 he migrated to Louisiana, establishing "The Southern Magazine" in New Orleans, and was official reporter for the Louisiana House of Representatives. His first play, a sensational drama, "Through Fire," was written in 1871. This was followed by "Peril," and "Fate," the latter being taken by Carlotta Leclercq, Fechter, leading lady to England. Then followed several dramas, one of which became famous as "Van the Virginian," played by the sterling actor, Frank Mayo. The German comedy "Ultimo" was translated by Campbell and given the name of "The Big Bonanza." It was produced in 1875 at San Francisco, and was a wonderful success, it paying a profit of \$16,000 in four weeks. The author visited England in 1876, where he wrote the drama, "The Heroine in Rags," and reconstructed "How Women Love," giving it the name "The Vigilantes." "Clio" and "Fairfax" were dramas brought out in 1879, and the same season Louis Aldrich made the play of "My Partner" famous, it being the first of Mr. Campbell's production to achieve success in New York City. "The Galley Slave" and "Fairfax" were both being played at New York theatres that season, making three of Mr. Campbell's dramas as metropolitan theatrical attractions. The drama "Matrimony," was written in 1879-80, followed by "The White Slave," "My Geraldine," "Siberia," and "Paquito." At this time the popular playwright was the lessee of the Fourteenth Street Theatre in New York City, but his health failing he was obliged to retire from the management in 1886. He died at an institution for the insane at Middletown, New York, July 30, 1888.

The works of Logan G. McPherson on money and banking are considered authority on these abstruse subjects. The writings of Robert P. Nevin are well known. His "Black Robes, or Sketches of Missions and Minister in the Wilderness and on the Border," which appeared in 1872 from the well known house of Lippincott, while it met with a large sale, evoked a storm of varying comment not unmingled with censure. "Les Trois Rois" elucidated the three industries of Pittsburgh, taking as its patron saints in realms of transportation, iron and natural gas, William Thaw, Andrew Carnegie and George Westinghouse. Samuel P. Langley and James E. Keeler, while connected with the Allegheny Observatory, furnished articles and essays to scientific journals; one especially noteworthy by Professor Langley was "Research on Solar Heat," while Professor Keeler's book, "Spectroscopic Observations of Nebulae," is a creditable work. William Darlington's historical books on "Fort Pitt and Journals of Gist" are careful researches possessing

great value. The poetical writings of Richard Realf possess subtlety of thought, aptness of imagery, and ease of expression. Realf was an Englishman by birth, and came to America on reaching manhood, arriving in New York in 1855. In personal appearance he looked like the traditional poet, short of stature, a handsome face, well shaped head, feet and hands small, a perfectly formed and graceful body. He had an abundance of brown, afterwards gray, wavy hair, and brown eyes. After visiting Kansas, there becoming associated with John Brown, he drifted to Chicago, where he enlisted, was commissioned an adjutant, and served with distinction until the close of the Civil War. On leaving the army he decided to join the Oneida Community, but married a woman of excellent character in Northern Indiana. Shortly after his marriage he went South and his wife, thinking she was deserted, had a sickness of brain fever and on recovering left Indiana, changing the spelling of her name. Realf thinking she was dead, contracted another marriage with an adventuress of the worst type, disgracing his name, and darkening his life, and hounding him to his grave. Finally this woe-driven son of genius reached Pittsburgh, in December, 1869, and became connected with the staff of the "Pittsburgh Commercial." It was while he was in Pittsburgh he wrote many of his poems, among them "Liberty and Charity," "Introspection," "The Song of Pittsburgh," and "Retrospective and Introspective," written for the Centennial of 1876. Amongst his sonnets are "Christendom," "Symbolism," "Little Children," and "My Slain." He entered the lecture field in 1877, but his venture brought him nothing but disappointment and bad health. He then went to Kansas, finally to San Francisco, and became a frequent contributor to the "Atlantic," "Harpers" and "Scribner's Monthly," at times to the "Argonaut." Here he was surrounded by friends, but his nemesis still pursued him, and in the fall of 1878 came to San Francisco to annoy him. She gained access to his room, stole and destroyed his papers and poems, and while thus engaged the careworn and distracted poet returned to his lodgings. This untimely visit of his obnoxious spouse was too much for the care-worn and distracted poet; with his last dollar he purchased chloral hydrate and laudanum, returned to his room, drank the drugs, and sat down to write his last and grandest song. The following day he was found dead in his room. His prose writings are marked by the highest grade of rhetorical power and classic finish; he was highly endowed with the gift of oratory, and his writings evince the easy flowing affluence of his fervid speech. He was master of a terse, direct style, a power of statement and a local grip on fact and statements, in his editorial writings. His poems are replete with classic beauty and melody, and evince a deep insight into the realms of the ideal, and are noted for their purity, every word inspiring the reader to a higher life and purer thought. Such was the true poet of Pittsburgh, whose writing entitled him to a high place in American letters.

Exceptional genius in certain branches of literature is shown in the works of Charles McKnight. Of Scotch-Irish descent, he was born in Pittsburgh, September 4, 1826. His father was one of the extensive

and prominent dry goods merchants of the city. Young McKnight graduated from Princeton College, studied law, traveled two years in Europe, and returning to Pittsburgh, became editor and proprietor of the "Pittsburgh Evening Chronicle," which he managed until the close of the Civil War. The publication of the "Illustrated People's Monthly" was commenced in 1870; in that magazine in 1873 appeared his "Old Fort Duquesne," afterwards renamed "Captain Jack," which received considerable attention in this country and was published in England and Germany. Among his other valuable contributions to history as well as to literature are "Our Western Border," "Simon Girty," and others. He died in 1878.

Another student of Pittsburgh's history is the Rev. Andrew A. Lambing, whose writings are amongst the most valuable of the local history of the city. His ancestors were from Alsace, in the vicinity of Strasburg, France, and in the middle of the eighteenth century settled in the eastern part of Pennsylvania. The father of the noted clergyman came to Armstrong county, where in Manorville our subject was born, February 1, 1842. His early industrial habits were formulated by work on a farm, and he was trained in a school of rigid poverty. His education was limited to four months schooling in the winter season. At the age of twenty-one he entered St. Michael's Preparatory and Theological Seminary, Pittsburgh, and was ordained to the priesthood August 4, 1869. After serving as pastor of several parishes he was transferred, October 18, 1865, to St. James' Roman Catholic Church at Wilkesburg. Father Lambing is the author of "The Orphan's Friend," "The Sunday-school Teacher's Manual"; he is, however, more widely known as a historical writer and for placing in permanent form the valuable and the fast perishing early records of Pittsburgh. Among the local historical works of which he is the author, is "The History of Allegheny County," "The Standard History of Pittsburgh," a translation of "The Register of Fort Duquesne," "The History of the Catholic Church in the Diocese of Pittsburgh and Allegheny City," these are vital monuments that are preserved in his memory. The "Catholic Historical Researches," a quarterly magazine, was started by Father Lambing in 1884, the first publication of its kind to be devoted to the history of the Catholic church in this country.

Among those who have contributed to literature of the present day mention is made of the sketches of Erasmus Wilson, which are noted for their profound philosophy and quiet observation. Samuel Hardin Church, though a native of Missouri, his forbears have resided in Pittsburgh since 1822, and he was educated in the schools of that city. Early in his life he became identified with the railroad interests of the country, and though engaged in active business has gained prominence in literature. He is the author of "Oliver Cromwell, a History"; "John Marmaduke," "Pittsburgh in the Historic Series," also a thirteen volume publication on the "Corporate History of the Pennsylvania Lines, West of Pittsburgh." He has been a frequent contributor to the leading magazines.

Thomas Wood Stevens, a native of Illinois, connected with the Department of Drama in Carnegie Institute of Technology since 1913, is the author of "Lesser Tragedy," "The Etching of Cities," "Lettering," also dramatic works and historical pageants.

The gentle sex of Pittsburgh have also contributed their part to the world's literature. The author of the novel, "John Ward, Preacher," is most widely known. Though born in Pittsburgh, February 23, 1857, her literary fame was gained in a sister city. Her maiden name was Margaret Campbell, and she was reared in the family of her uncle, Benjamin Campbell. Miss Campbell in 1880 married Lorin F. Deland, a man of literary tastes and ability, who assisted his wife in her work at their home in Boston. Mrs. Deland began writing in 1884. Her first poem, "Succony," was sent to the editor of "Harper's Magazine," and she soon became a popular contributor of the leading periodicals of the day. A collection of her poems entitled "The Old Garden and Other Verses" was published in a limited edition, and her reputation was such that the edition was exhausted in a few days. Her next and greatest work was the novel, "John Ward, Preacher"; others soon followed. Her short stories were published in the "Atlantic Monthly" and "Longman's Magazine." Mrs. A. Annie Wade entertains and instructs with her poems, essays and stories. Mrs. Martha F. Bogg wrote several strong romances. Sarah Hutchins Killikelly, daughter of Rev. Bryan Killikelly, prominent in the Episcopal church, wrote an interesting book, "Curious Questions in History," which won her a fellowship in the Society of Science, Letters and Arts, London, England, and was an important demarkation in literature. Her essays on natural history, literature, art and science are highly prized by the most eminent writers and the most versatile critics. Her "History of Pittsburgh" is valuable in preserving the history of her adopted city of residence. She also edited the interesting tales of Dr. W. R. Mackay. Mrs. Emily Elizabeth Veeder was born in Champlain, New York, and was a student in Packer Institute, Brooklyn, New York. Her first work was "Her Brother Donnard," followed by "Entranced, and Other Verses"; "The Unexpected"; "In the Garden and Other Poems." Many of her poems were arranged to music of her own composition. Her work was limited, owing to her invalidism, though, despite her physical sufferings, she possessed originality, piquancy, a keen observation of human nature, and a nice discrimination of character which gave point to her conversation and literary work. Ellen Boyce Kirk, a native of Maine, married in New York City, David Kirk. She was the first woman superintendent of schools in the United States. She became interested in the Child's Welfare Movement, was one of the founders of the Social Center movement, and for years treasurer of the Child's Hospital of Pittsburgh. Mrs. Boyce was very successful in adapting standard works for use of children and others. She is the author of "Enunciation and Articulation," a text book for schools, also "Jean, Our Hospital Nurse." Clara Resse gained considerable fame as author of "And She Got All That." Anna Pierpont Siviter, a daughter of a governor of Virginia, and a graduate of Washington

Seminary, is a creditable writer of verses, jokes and short stories. She married William Henry Siviter, a journalist on the staff of the "Pittsburgh Chronicle," who was widely known as a humorist and a contributor to magazines. Mrs. Siviter was one of the organizers of Free Kindergarten Associations and of the Kindergarten College. She is the author of "Neka, a Tale of the Times of Artaxerxes," "The Scripture, and Other Poems," "Songs of Hope," "Four Christmas Days," "On Parole," besides being contributor to magazines. Elizabeth Hays Wilkinson, a native of Pittsburgh, has made a special study of English literature and is the author of "The Lane to Sleepy Town," "Peter and Polly," "Little Billy Coon." Miss Cora Thrumston, Mrs. Jane S. Collins, Sarah H. Carpenter, Kate McKnight and Virginia D. Hyde have all won distinction and renown in the field of letters.

The literary taste of Pittsburgh was early cultivated by local lecturers. At a later day all the celebrated orators of the United States besides many from Europe were secured by societies or other organizations. Among the early advocates of anti-slavery, anti-church and anti-state subjects was Mrs. Abbie Kelly Foster and her husband, Stephen S. Foster, in the early forties of the past century. Temperance Hall was crowded, as the community was interested in the subjects of slavery, anti-Catholicism, Fourierism, and other reform movements. At one of Foster's meetings the crush was so great that windows in the hall were broken and many people bruised. The press of the day was not in hearty unison with those reformers, as one of them in its issue says, "No good that we can see can come of these meetings; at any rate men will hardly be made better or wiser by listening to abuse of every institution they hold valuable in government and christianity." One of the early lecturers was Mrs. Francis Wright Drausmont, an Englishwoman, a public speaker of rare eloquence and power. The subject of her lecture was "knowledge." In the eastern cities she was ridiculed and rotten-egged, mainly due to opposition to a woman on the lecture platform, but Pittsburgh offered no serious objection to her appearance. From this time forward, leading lecturers appeared before the public. Ralph Waldo Emerson lectured on "Worship"; his views were opposed by many of the citizens as leaning too much to infidelity. Henry Ward Beecher, Frederick Douglass, and William Lloyd Garrison at different times portrayed the evils of slavery in glowing words, while Miss Lucy Stone lectured on the subject of "The Social and Industrial Disabilities of Woman." John G. Saxe, the well known poet, entertained the public, and the eloquence of Wendell Phillips was a source of delight in his well known lectures, "The Philosophy of the Reformation of Slavery," and "Lost Arts." Bayard Taylor's travels and observations were especially interesting, while the talented satirist of fashionable snobism, George W. Curtis, lectured here on "Gold and Gilt in Young America." On the reforms and reformers of the day, Horace Greeley delivered several lectures. The Fourierites, who advocated the reforms of Robert Dale Owen, effected an organization in 1848 and held meetings at the residences of their members, where the principles of their faith was discussed.

There were several organizations effected to bring popular lecturers before the community. Prominent among these was the Pittsburgh Institute of Arts and Sciences, incorporated by the legislature in 1838. However, its formation was some years earlier. Its object was the promotion and encouragement of manufactures and the mechanical and useful arts through popular lectures. The Catholic Institute, established in 1842, was devoted to the improvement of literary taste, and many prominent lecturers appeared under its auspices. These societies as well as the lecture platform of the earlier days have passed into oblivion. Though there is a pretense to give lectures on scientific subjects, moral, civil and religious reforms, the lecturer loses the attention of his audience by supplementing his words with pictures and other accessories, while the so-called lecture courses are interspersed by musical and singing performances; therefore the young of the present day lack the opportunity of being enthralled by such oratorical eloquence as that of Robert Ingersoll, the flights of sublimity and beauty of thought reached by the words of Beecher, Phillips, Greeley, and other noted lecturers of the days that are past and gone.

The oldest literary society outside of the institutions of higher education in the city was the Pittsburgh Philosophical and Philological Society. It was organized December 7, 1827, by twelve to fifteen clerks in the mercantile houses, and students of the Western University. The animating spirit of the organization was the Rev. Robert Bruce, its first president. The decade following its organization it had eighty-four members, but by removals and deaths in 1839 there was an active membership of only twenty-six. The society's hall was handsomely furnished, the walls ornamented with paintings and busts; members had separate chairs and desks arranged in a semi-circular row, facing the president, and outside of this circle were settees for the accommodation of ladies and gentlemen who attended the discourses. The object of the society was the investigation and discussion of subjects of practical utility, no topic being excluded except those of strictly sectarian character, hence the debates covered a wide range and frequently extended over several months. Prominent citizens, divines, professors, lawyers, doctors and students took part in the debates and assisted in maintaining the usefulness of the society.

An association that antedated the Pittsburgh Philosophical and Philological Society was the Pittsburgh Chemical and Physiological Society, formed in 1813. A library and philosophical apparatus was provided, and a valuable cabinet of mineralogy. Among its first officers were Walter Forward, president; Harmar Denny, secretary; and Samuel Pettigrew, treasurer. The Writ Institute was organized August 1, 1837, with six members, in two years increased to forty-four. It had a library of three hundred volumes of standard works, among which were the "Encyclopedia Britannica," obtained from England; "Encyclopedia Americana," "Nile's Register" and "Harper's Family Library," all of which were destroyed in the great fires of 1845. The Chatham Literary Institute with a half a dozen members was organized in the fall of 1838.

The membership soon increased to thirty-five, and a permanent institution was established for the object of literary intercourse and the obtaining of a library to consist of standard literary and scientific works. Meetings were held on Thursday evenings in the Associated Reform Church on Fourth street. Among other early literary organizations was the Tilghman Literary Society, the Philomathean and Marshall Institutes. The majority of these became extinct over a half century ago, and the present day literary clubs and societies are generally confined to the universities and their affiliated connections.

That an attempt was made to establish a circulating library as early as 1788 is evidenced by an announcement in the "Gazette" of July 26th of that year, that as soon as there were one hundred subscribers, a circulating library would be opened by John Boyd, to consist of two hundred chosen books to be loaned to subscribers on terms of twenty shillings per annum. Whether this attempt ever reached beyond its infancy we are unable to state. Boyd was a partner of John Scull, the editor of the "Gazette," and taking into consideration the population of the town, the announcement most likely was simply to fill newspaper space.

The first shop to offer for sale books west of the Allegheny Mountains was established under the patronage of Judge H. H. Brackenridge, between 1795 and 1800. The first proprietor was John Gilkinson, who died prior to 1800, and the bookshop passed into the hands of Zadoc Cramer. The new proprietor had served an apprenticeship in the printing and bookbinding business, and soon after taking possession of his literary shop announced his intention to establish a circulating library, the subscribers to pay one dollar a month or five dollars for twelve months, and to be entitled to one set of books at a time, to be returned in four days, or pay a forfeiture of six cents per day. Country subscribers were allowed two sets and could retain the books two weeks. It is evident that the requisite number of subscribers was obtained, as Cramer in the "Gazette" thanks the patronizers of the library. Cramer was of a delicate constitution which interfered with his usefulness, he still being under forty at the time of his death. The establishment of a circulating library was not his only public concern; school books previous to his coming to Pittsburgh were all brought over the mountains; Cramer set up a press, established a printing house, and spelling books, grammars, English readers, arithmetics and a variety of other publications adapted to schools were printed at his establishment and distributed throughout the West. His guide book for navigating the western waters, "The Navigator," was compiled in 1802 and ran into many editions. He also in conjunction with Rev. John Taylor commenced the "Pittsburgh Almanac"; success in his ventures made him more pretentious, and in 1805 he undertook the publication of "Brown's Dictionary of the Bible," which netted him a handsome profit. The location of Cramer's bookstore was on Market street, and in 1810 John Spear and William Eichbaum became his partners. A bust of Benjamin Franklin was placed over the doorway of the shop as a distinguishing mark.

Thomas Davis in 1812 opened a small circulating library on Fourth

street, for the benefit of the children and young people of the town. A circulating library on Union street opened by William R. Thompson seems to have had a hard time and been of but short existence. The Pittsburgh Library Company flourished for several years, but in 1814 it was united with the Pittsburgh Permanent Library Company. The first recorded meeting of this latter institution was held November 27, 1813, an organization being effected, a room was secured in the court house. The library was financed by contributions of ten dollars from a few individuals, and an annual fee of five dollars. Individuals loaned a certain number of books until the library had about two thousand volumes. The first president was Rev. Francis Herron.

The first record of The Young Men's Mercantile Library Association is dated July 13, 1847, signed by twenty-three people, setting forth the advantages of a public library and reading room and pledging themselves to permanent support of this object. That same year Samuel M. Wickersham was president, and rooms were rented in the second story of a building on Market street, but in the summer of the succeeding year was removed to Fourth street. A charter was procured in 1849; the association not only controlled the library, but brought various lecturers to the city. Library Hall was erected in 1867, on Penn street (now Penn avenue) near St. Clair street, now Sixth street, and the library removed to its new quarters August 26, 1870. In 1871 the total number of volumes was 12,344, it having become heir to the library of the Historical Society of Western Pennsylvania. Disaster soon followed; the library could no longer face competition, and to avoid heavy rents, after the panic of 1873, it was removed over the Monongahela river to the borough of Knoxville, where it was sequestered in part of the second story of the public school building. It was finally purchased by James F. Grimes, and for several years formed a part of the Knoxville Free Library, but public support having been withdrawn, it again came into possession of Mr. Grimes, and after his death came into the possession of the Carnegie Library of Pittsburgh.

In 1850 Colonel James Anderson established on the second floor of a building on the southeast corner of Federal street and the Diamond, his private library for use of the public. Prominent citizens acted on the board of directors, and it became known as The James Anderson Library Institute of Allegheny City. The library was closed during the Civil War, the books being stored in the basement of the City Hall. To this library came a boy who loved books, to spend his leisure hours in reading. This lad afterwards made a success of life, accumulated a vast fortune, and realizing the benefits that he derived from this small library, he decided to spend part of his fortune to give to others what he had enjoyed as a free gift from the thoughtfulness of Colonel Anderson. He, Andrew Carnegie, in 1881 offered Pittsburgh \$250,000 for a free public library on condition that the city would appropriate \$15,000 a year for its maintenance. The selection of the site was entrusted to a committee of ten citizens of Allegheny county. For legal reasons this gift was not accepted, and immediately the city of Allegheny got busy and overtures

were made to Mr. Carnegie offering a site on Diamond Square in that city and agreeing to furnish \$15,000 annually for maintenance, if Mr. Carnegie would expend \$500,000. This offer Mr. Carnegie declined, but replied he would furnish \$250,000, afterwards increasing his gift to \$300,000. A building commission was formed and in less than two years and six months from the time ground was broken, a building massive in structure, of gray granite in the Romanesque style, designed by Paul J. Pelz, and one of the first of the Carnegie Free Libraries, was established. W. W. Stevenson, the first librarian, was succeeded by the present incumbent, E. E. Eggers. This is a separate institution, and is officially known as The Carnegie Free Library of Allegheny, and became an asset of the city upon the annexation of Allegheny in 1907.

The Carnegie Library of Pittsburgh is a free public reference and circulating library, founded by Andrew Carnegie, but maintained by the city of Pittsburgh. The Central Library, the beginning of the public library system, was opened in 1895 with a collection of 16,000 volumes. Ever since the library opened, special emphasis has been placed on the selection of books, especially along industrial lines, hence one of the finest collection of technical works in the country. The library contains 465,000 volumes of which about 41,000 volumes are in foreign languages. A study of children's literature and the direction of reading for young people is directed by the Children's Department. In the periodical room, 1,100 current magazines are kept on file. The blind department is also another interesting feature, the library having at its disposal nearly four thousand books and magazines in six different types, over a thousand of these being deposited by the Pennsylvania Home Teaching Society for the Blind, whose general teacher in Western Pennsylvania is under the general direction of the library. The Technology Department, located on the third floor, is in charge of a librarian of technical training, and is prepared to furnish information in the natural and applied sciences. There are eight branch libraries as follows: Lawrenceville Branch, May 11, 1898; West End Branch, February 1, 1899; Wylie Avenue Branch, June 1, 1899; Mount Washington Branch, May 31, 1900; Hazelwood Branch, August 16, 1900; East Liberty Branch, October 10, 1905; South Side Branch, January 30, 1909; and Homewood Branch, March 10, 1910.

It was on November 25, 1881, that Andrew Carnegie offered \$250,000 for a free library in Pittsburgh, with the proviso that the city should furnish \$15,000 annually for its maintenance. The city at that time having no legal power to enter into a contract of this nature, proceeded to get an enabling act passed by the legislature. This was accomplished in 1887, and on Mr. Carnegie being asked for a renewal of his offer he offered to expend \$1,000,000 if the city would furnish \$40,000 for its maintenance. This offer was accepted, and the building was dedicated to public use, November 5, 1895. The benefactions of Mr. Carnegie were increased by the sum of \$5,000,000; the building was enlarged which was formerly opened to the public in April, 1907. The Carnegie Library School was organized in 1898 for the special training of young women in technical library work, and children's literature was conducted as a

department of the library until 1916, when it became a department of the Carnegie Institute. The library staff, exclusive of employees operating and caring for the building, is over two hundred.

The Central Library building, at the entrance to Schenley Park, is a massive Italian renaissance structure 400 by 600 feet, covering over four acres. The book collection is housed in the Central Library and its eight branches; also there are collections in the public school buildings, and a system of small traveling libraries for children is operated. The stacks accommodating 800,000 volumes are amply lighted from three large courts. The library is managed by a board of trustees of which Samuel Harden Church is president. The first librarian was Edwin H. Anderson, now director of the New York Public Library; his successor was Anderson H. Hopkins, who died in office. He was succeeded by Harrison W. Carver, now director of the Engineering Societies Library, New York City, and his successor in 1917 was the present director, John H. Leete.

The first historical society was organized in Pittsburgh, February 27, 1834. Benjamin Bakewell was elected president and Charles H. Kay librarian. The society continued in existence for eight or ten years, finally languished and expired. It accumulated a library of several hundred volumes and early in the forties an attempt was made to revive it, but after a few years it again gave up the ghost. Still another attempt was made, and the Western Pennsylvania Historical Society on January 10, 1859, held its first stated meeting at the Merchants Exchange. Neville B. Craig withdrew his name from the list of candidates for the presidency, and Wilson McCandless was elected. Complete organization was effected and provisions made for future meetings. This again was a short lived organization, as was a similar attempt ten years later, but in 1877 there was founded the Historical Society of Western Pennsylvania. The legislature granted the institution a charter in 1888, but it was still small in membership, not much interest being taken in preservation of local history. The successful promoters of the sesqui-centennial celebration thoroughly reorganized the society in May, 1909, and immediately there began a new and vigorous career which resulted in increasing its membership from forty to seven hundred. A lot of ground was purchased at Grant and Parkman boulevards at a cost of \$14,000, on which was erected a beautiful two-story building costing \$27,000. This building was opened February 17, 1914, and the Society has collected and placed in the library about fifteen hundred books and documents, besides a number of historical pictures and relics. Regular meetings are held on the last Tuesday evening of every month, except July and August. Lectures are given and papers are read by historians of local and national reputation, occasionally accompanied by stereopticon views, showing geographical, ethnological, zoological and botanical features.

CHAPTER XXXIV.

Art.

The devotees of art at the commencement of the nineteenth century in Pittsburgh were of an itinerant character, though the newspapers as early as June, 1804, announced that two artists from Philadelphia would be pleased to receive commissions for the execution of their work,—one a landscape painter, S. H. Dearborn; the other a miniature painter. They opened a studio on the bank of the Monongahela river, and their sojourn is problematical. The next limner to advertise was J. R. Carroll, who had a studio on Penn street, and in addition to being a portrait painter did free hand drawing, crayon work, water colors, landscapes, and also gave instructions to a limited number of art students. The art critics of the city were called upon in 1818 to pass their opinion on a gallery of fine European paintings and rare engravings, prominent among which were views of Mount Aetna and Vesuvius. This exhibition was held at the house of Mrs. Irvin, corner of Diamond alley and Market street by a Frenchman, who charged an admission fee of twenty-five cents. About this time a Mrs. Russell advertised to give instructions in free hand drawing and in painting on velvet, cambric, paper, worsted cloth, mantles, etc.

Among the early painters was A. Bowman, who came early in the decade of the twenties. He soon after went to Europe under the patronage of a few wealthy individuals of Pittsburgh, where he became a pupil of Sir Thomas Lawrence, president of the Royal Academy of London, and was regarded by him as an artist of rare promise, his distinction between ideal face painting and portrait painting being prominently illustrated in his work. He crossed the channel to France, and became a protege of General Lafayette, in whose family he resided for nine months, and whose portrait he painted, which was declared by connoisseurs as equal to any portrait painting in the Louvre Gallery. He returned to Pittsburgh in 1829, painting many prominent ladies and gentlemen living in the city in the thirties. The claim is made that he ranked as the second portrait painter of his days, that his portraits of the Marquise de Lafayette and J. Fenimore Cooper were of high standard of excellence, and that in point of coloring he had no equal.

A museum and gallery of paintings was opened at the corner of Fourth and Market streets by J. R. Lambdin, in 1828. Here were exhibited to the eager public, paintings, curios, stuffed quadrupeds, foreign and American birds, besides minerals, fossils, including both the bones and teeth of the mammoth, marine shells, reptiles in spirits, coins and medals, corals, Indian curiosities, etc. This was Pittsburgh's pioneer museum, and the owner was also a portrait painter of considerable merit, as is attested by his portrait of Judge Henry Baldwin. During the third decade of the nineteenth century there were many exhibitions of celebrated paintings, those of West, Alston, and Trumbull being especially

admired. In the forties, W. C. Wall and Peter McClory opened studios. They were both landscape painters; Wall's painting of Braddock's Field and McClory's of the Falls of Passaic were noted productions of their brush. The celebrated painting of the Hudson river, covering 12,000 feet of canvas, was publicly exhibited in 1848 at Philadelphia Hall. While the work of art was extolled, the exhibition of Powers' Greek Slave, and similar works of art in the nude, in the same year were severely criticised by the press.

In the commencement of the middle half of the past century, Emil Foerster produced a fine "Ascension" for the Catholic church. The artist's specialty, however, was portraits, which possessed high merit. L. Braun, a refugee from the German Revolution, exhibited about this time his painting of the "Saviour Rising from the Sepulcher." Among other artists of this period was George Hetzel, an Alsatian, who made a special study of heads and figures. He afterwards devoted himself to landscapes of the realistic school, his close views being particularly meritorious. T. S. Officer and J. A. McClean were painters of portraits and miniatures. John M. Glogger made a specialty of coloring photographs and of portrait painting. Emil Bott painted some beautiful landscapes. While Jasper Lawman excelled in landscape painting, he finished many portraits of exceptional value. As a painter of landscapes and marine views, Joseph R. Woodwell gained distinction; likewise, Trevor McClurg was a strong artist of portraits, figure pieces and genre paintings. Clarence M. Johns' forte was transferring to canvas the animal kingdom, his horses being especially fine; he also painted landscapes.

The Pittsburgh Academy for Instruction in Drawing and Painting was established in 1855 by D. R. Smith, an artist of repute, and many amateurs received instruction there. A resident of Pittsburgh for many years was Martin B. Leisser, still living, who excelled in portrait and figure work. Charles Walz was a successful portrait painter, and the works of Charles Lingenfelder were particularly promising, though he passed away at an early age. Horatio S. Stephenson had a studio on Wood street for many years; his first crayon works and later his oil paintings were greatly admired. The Nestor of Pittsburgh artists who produced many rich landscapes was Alfred S. Wall. The tendency of art amongst the early artists of Pittsburgh was to depreciate the work of impressionists and cling to the realistic school.

The establishment of the Pittsburgh School of Design in February, 1865, for the instruction of women, marked an epoch in history of art in the city, and many graduates turned out meritorious works. The institution was for many years under the superintendence of Miss Anne W. Henderson, assisted by Miss Olive Turney and others.

Pittsburgh's most eminent artist was Charles Stanley Reinhart, a son of Albert G. Reinhart, a merchant of the city, and a nephew of the noted artist Benjamin Franklin Reinhart. The younger Reinhart was born in Pittsburgh, May 16, 1844. In his early youth he showed rare skill in sketching and displayed a passion for art. In company with

Clarence M. Johns, in 1868, he went to Paris and studied in the *Atelier Suisse*, and later at the Royal Academy in Munich. He returned to America in 1870; for the next decade he produced black and white sketches, water colors and oil paintings, many of which were used in illustrating books and periodicals. Reinhart returned to Paris in 1881, and was a regular exhibitor in the Salon for the next ten years, securing gold and silver medals. He then became connected with the art department of Harper Brothers of New York City. He died at Philadelphia, August 30, 1896. Among his most noted paintings are "An American Abroad," "A Little Swiss Sojourn," "At the Ferry," "Washed Ashore," "Rising Tide," besides many others.

A small number of cultivated people in 1873 organized the Pittsburgh Art Society for the mutual consideration of art subjects. It was incorporated in 1891, and gave material aid in the organization of the Academy of Science and Art. The exhibitions of Art were few at this time, aside from those undertaken by the Art Society, and occasionally the private Shoenberger's gallery was thrown open to the friends of the family and the art students of the city. Outside of this gallery and the Wolf collection, there was no pretense of private individuals having extensive collections of paintings, though some masterpieces of European and American artists were owned in the city. It was not until the munificent endowments of Andrew Carnegie that Art became a factor in the education of the people along artistic lines, and Pittsburgh stood any chance of becoming one of the art centers of the United States. This artistic epoch began in Pittsburgh in 1895, when this worthy iron-master, having by his foresight and activity accumulated an opulence, sought a way in which he could show his appreciation of the wealth thus bestowed upon him, and better the conditions of the citizens of his adopted city. Thus was the foundation laid for his noble gift to education. The first offer made by Mr. Carnegie for a free library in Pittsburgh was on November 25, 1881, when he offered \$250,000, if the city would agree to appropriate \$15,000 annually for its maintenance. At this time the city had no power to raise taxation money for this purpose, but the legislature in 1887 passed an act enabling the city to perform its part of the proposed agreement. The city officials thereby notified Mr. Carnegie that they were now able to perform their part of the agreement if he would renew his offer. In response to this letter Mr. Carnegie made reply that since his first offer Pittsburgh had greatly increased in size and importance, and that more extensive buildings should be planned not only for a library but for the exhibition of works of art, and for museums as well as assembly rooms for various learned societies. He then offered to expend \$1,000,000 if the city would agree to furnish \$40,000 for their maintenance. An ordinance was passed May 31, 1890 accepting this proposition and a board of trustees was appointed by Mr. Carnegie, the executive officers being: James B. Scott, president; Henry C. Frick, treasurer; and William N. Frew, secretary. Plans for the building were submitted by ninety-seven architects; those of Longfellow, Alden and Harlow were accepted. Nineteen acres of the park lands recently ac-

quired by the city from Mrs. Schenley were appropriated for a site. The foundation of the building was laid in the fall of 1892, and the building was dedicated November 5, 1895. After the completion of this Library building, Mr. Carnegie made arrangements to give an art gallery and museum, and for the administration of these new institutions a board consisting of eighteen citizens of Pittsburgh was named, to which was added the board of trustees of the Carnegie Library *ex officio*. This board of thirty-six members was organized under the name of The Carnegie Fine Arts and Museum Collection Fund; this cumbersome title was changed in 1899 to the Carnegie Institute.

The Carnegie Institute now embraces the main library and its branches, the Museum, the Department of Fine Arts, the Hall of Music, and the Carnegie Library School, also the Carnegie Institute of Technology. The total gifts to the Institute made by Mr. Carnegie during his lifetime for all purposes amounted to \$27,664,594.51. By his will the Carnegie Institute received \$2,000,000 to be added to its endowment, also \$672,888 to be used at the discretion of the Institute, and \$200,000 due in fifteen years if a like sum is contributed from outside sources to endow the Museum and Art Gallery educational work. The dual administration of the Institute and the Carnegie Institute of Technology was to be dissolved, they to be governed by separate boards of trustees.

The building which houses the Carnegie Institute stands on Forbes street, is three stories in height, built of light gray sandstone in a modification of the Italian renaissance style of architecture. The building covers approximately four acres, is four hundred feet on the Forbes street facade, and six hundred feet on the eastern side. At the entrance which leads to the Music Hall on Forbes street, on the right hand side is a mammoth bronze statue of Shakespeare, while on the opposite side music is represented by a similar statue of Johann Sebastian Bach. At the other entrance on Forbes street and on the right hand side is a bronze statue of the sculptor and painter, Michael Angelo; on the opposite side is Galileo, Italy's famous physicist and astronomer. These statues are the work of J. Massey Rhind. The hall at the eastern Forbes street entrance, which is the main entrance to the Art Galleries and the Museum, is three stories in height, with glass roof. It is paneled in Hauteville marble, and decorated with John W. Alexander's mural paintings representing "The Crowning of Labor." These paintings, which typify Pittsburgh as a knight in steel armor, suggest the strength and power of the city. Labor is crowned and heralded by hosts of winged figures blending with the smoke and steam; these figures are Peace, Prosperity, Luxuries and Education. The work on these panels has been delayed owing to the death of the artist.

John White Alexander was born in Allegheny City, October 7, 1856, and for several years was connected with the art department of the publishing house of Harper Brothers. He then went abroad and studied at the National Academy of Fine Arts in Munich, also with the noted American painter, Frank Duveneck, who formed a school and conducted painting trips to Venice, Florence and other art centers. Upon his return

to the United States Mr. Alexander became active as a magazine illustrator, and attention was first attracted to his paintings in the salon of the Champ de Mars in 1893. He received gold medals at the Philadelphia Academy of Fine Arts in 1897; at the Paris Exposition in 1900; and at the Pan-American Exposition of 1901. He was elected an academician of the National Academy in 1901 and is represented in the Luxembourg and many American and European collections, and by six lunettes depicting "The History of the Book" in the east hall of the Congressional Library, Washington. He died June 1, 1915.

In the east of the Carnegie Institute building on the main floor is the beautiful Hall of Sculpture, built in the measurement of the Parthenon. The white columns standing out in relief from light green walls, are of marble brought from Mount Pentelicus, near Athens, similar to what was used in the construction of the Parthenon. Here are statues and reliefs reproducing in fac-simile statues from Egypt, Assyria, Persia, and Chaldea, representing the earliest period. To the period of early Greek art belong the "Apollo" from Tenea, the "Archer" and the "Fighting Warrior." The "Aphrodite" of Melos, and the Giustiniani "Athena" are examples of Greek art in the fourth century, B. C. To the Roman period belongs the two statues of Augustus.

Adjoining the Hall of Sculpture is the Hall of Architecture, which is large enough to include full size casts of many architectural monuments. Here is presented the great cast of the Facade of the Abbey Church of St. Gilles of Gard-France, which is of Romanesque architecture. The design arches and sculpture of the three doorways are most faithfully reproduced. This with the Greek monument of Lysicrates, a tall Greek column with its capital and entablature, the Gothic portal of Bordeaux, France, with its painted arch and sculptured ornament, examples of Renaissance architecture, are but the few that represent the beginning with Egyptian architecture and ending with the late Renaissance. The Museum occupies the greater portion of the eastern side of the main building, with a floor space of 152,074 square feet. In its activities it covers the natural sciences and the applied arts, and is organized into fifteen sections.

The Gallery of Birds containing over 80,000 specimens, including the Buller Collection, one of the most important in the New World. There are many beautiful groups represented, among them "Count Noble," the ancestor of the finest setter-dogs in America, putting up a covey of quails; a group of vultures settling upon the dead body of a wapiti; a group representing the pelicans on Pelican Island, besides many others. There is a study collection on the third floor. The Gallery of Reptiles in the south-eastern corner of the building on the main floor includes over 9,000 specimens, among which are striking groups of diamond-black rattlesnakes, collected in Texas, and boa-constrictors from the Isle of Pines. The Hall of Fishes occupies the southwestern corner of the main floor, though a greater part of the collection of fishes and reptiles is in the alcoholic store room as a precaution against fire. Here are represented the sponges, marine and freshwater shells, echinoderms, and other

invertebrates. The Exhibition series is located on the second floor, and most of the collection is preserved in the Laboratory of Invertebrate Zoology on the third floor. The Mineralogical collections are exhibited on the first floor in the Gallery of the Geology and Mineralogy, with reserved collections on the third floor. The paleontological collections are among the most extensive and famous in the world; portions of these collections are placed in the Gallery of Avian Anatomy and in the Gallery of Vertebrate Anatomy, the latter adjoining the Gallery of Mammals. In the Gallery of Applied or Useful Arts on the first floor are exhibited thousands of specimens representing fictile and textile wares both ancient and modern. In the section of Graphic Arts is a collection of war posters. The collection of ancient Chinese and Japanese ivory carvings, Chinese and Japanese bronzes, old Japanese arms, specimens of ancient and modern silverware, coins and medals, postage stamps, are also sections of the Gallery of Applied and Useful Arts, on the first floor. The evolutions of methods of transportation as well as preserved historical objects, are represented on the third floor, on which is also located the Laboratory of Entomology, with thousands of specimens of butterflies, besides no less than 1,500,000 specimens of insects, representing approximately 150,000 species. The mammals are on the second and third floors, groups of zebras, giraffes, wart-hogs, African buffaloes, antelopes, etc. The group of polar bears, the Mexican jaguars, Alaskan fur seals, sea lions, and Verreaux's "The Camel Driver attacked by Lions" are most worthy specimens of art. A part of the botanical collections are exhibited in the Gallery of Plants on the second floor. The library of the Museum on the first floor contains many thousand volumes, and a series of quarto volumes known as the "Memoirs" besides "Annual Reports" are published. The director of the Museum, William J. Holland, is the editor of these publications. From its inception the Museum has carried on intensive studies in various fields, and has become one of the leaders of research in America, especially in zoology, botany and paleontology. It was the first institution of its kind to establish "Prize Essay Contests," offering prizes to students in the elementary schools for the best essays upon objects in the Museum.

The musical requirements of the community are fostered in the Music Hall at the western end of the building. Here free organ recitals are given twice a week on one of the largest concert organs, which was erected in 1918. The Music Hall has a capacity for seating two thousand persons.

The paintings of the permanent collection represent the art of many lands, making it broadly international in character, and is located on the second floor of the building. A collection of bronze statues and objects, reproduction of bronzes from Pompeii and Herculaneum, besides a large collection of photographs of monuments and temples of Greece, are part of the exhibition in this department. There are also important collections of rare prints, groups of etchings, Japanese prints and original drawings, which form a notable group. Educational work in the field of Fine Arts is conducted through the agency of the public schools; printed

illustrated lessons have been prepared on painting, architecture and sculpture, and are transmitted to the students orally, then given them to take home for reference. The Institute has shown Annual International Exhibitions for many years; an average of three hundred paintings have been hung, it is recognized as among the most important annual exhibitions held either in Europe or America. These exhibitions were discontinued in 1914 because of the war, but were renewed in 1920. The twenty-fifth anniversary of Founder's Day was held in the spring of 1921.

Among Pittsburgh's artists of the present day is John Wesley Beatty, a native of the city, whose etching "Return to Labor" is hung in the National Gallery of Art in the Smithsonian Institution. He has been director of the Art Department of Carnegie Institute since 1896. The assistant director of the Art Department since 1916, Robert Bartholow Harshe, was born in Missouri, and is represented in the Luxembourg Museum of etchings. A native of New York, Charles Jay Taylor, the professor of fine arts, Carnegie Institute of Technology, since September 1, 1911, has exhibited at the various expositions in this country and France, also in the Salon in Paris, the Art Institute of Chicago, the National Academy of Design, and the Carnegie Institute.

The Art Commission of the City of Pittsburgh was created by an act of the General Assembly, approved by Governor John K. Tener, May 12, 1911. The movement looking to provide an Art Commission for the city was begun early in 1910 by the Pittsburgh Civic Commission, the Civic Club of Allegheny County, and the Beautification Committee of the Greater Pittsburgh Association. The mayor, William A. Magee, was in hearty accord with the plan, and legislative enactment having been obtained, the commission was organized, the mayor appointing John W. Alexander, Hermon A. MacNeil, both of New York City, the former an artist, the latter a sculptor; Alfred B. Harlow, A. B. Orth, Henry McGoodwin, all architects, the latter professor of architecture in Carnegie Institute of Technology; John W. Beatty and William L. Mellon. At the time of the organization of the commission, November 23, 1911, John W. Beatty was elected president and A. B. Orth, secretary. At an election held February 3, 1913, Mr. Beatty was reelected president, and Henry McGoodwin succeeded Mr. Orth as secretary. The personnel of the Commission remained undisturbed until the resignation of John W. Alexander in 1914, which was filled by the appointment of John W. Beatty as painter member, and Charles D. Armstrong, as non-professional member. On account of the pressure of his private business, A. B. Harlow, who had succeeded Mr. McGoodwin as secretary, resigned in May, 1916, and to fill the vacancy thus created, Benno Janssen, an architect, was appointed, Mr. Goodwin performing the duties of secretary pro tem until Benno Janssen was chosen to fill that position. The mayor and director of the Department of Public Works are *ex officio* members of the commission. On account of the resignation of Mr. McGoodwin, Frederick A. Russell, an architect, was appointed his successor, and on the death of Mr. Orth, John T. Comes, an architect, became a member

of the commission. The death of Mr. Russell causing another vacancy, William Boyd, an architect, was appointed his successor. Frederick Thomas Bigger served as executive secretary from 1911 to 1919, when he was succeeded by George M. P. Baird. The Commission has by its wise decisions accomplished satisfactory results in beautifying the city by approving artistic and useful bridges and passing on plans and designs of monuments, buildings that without their critical commendation would have been an eyesore to the public.

The present personnel of the Commission 1921, is as follows: John W. Beatty, president, (painter); C. D. Armstrong, vice-president; Benno Janssen, secretary, (architect); William Boyd, (architect); John T. Comes, (architect); W. L. Mellon; Hermon A. MacNeil, (sculptor); Mayor E. V. Babcock, ex officio; N. F. Brown, director, (ex officio); George M. P. Baird, executive secretary.



CHAPTER XXXV.

Dramatic and Musical Art.

For years after the incorporation of the city there was no building regularly set apart for performances of dramatic art. There is a tradition that Shakespeare's plays were enacted during the occupancy of Fort Pitt. Shortly after the fort was abandoned and torn away, the first court house was built and the drama of "The Poor Soldier," followed by the farce "The Apprentice," was enacted in February 1803 by amateurs, principally lawyers and physicians of the borough. There were in 1808 two dramatic societies in Pittsburgh, one of law students and one of respectable mechanics. They gave entertainments in the great room of the Court House, once a month during the winter. A third dramatic society called the Thespian Society was organized in 1812, amongst the young of both sexes, and gave performances in a room on Wood street in a building known as Masonic Hall. The society was duly organized, having a board of managers, and for many years Alexander Brackenridge was its president. They generally gave performances for the benefit of deserving organizations, and during the hard times of 1817 organized the Dramatic Benevolent Society for the purpose of helping the poor of the city. This society produced plays of the greatest merit, old English comedies, Shakespeare's "She Stoops to Conquer," and "Romeo and Juliet," "The Merchant of Venice," and "Pizarro, or the Death of Rollo." The first circus was brought to town in 1814 by Pepin, Brishard & Cayetano; in 1818 a grand exhibition of living animals consisting of a lion, ape, pelican, African crown bird, marmoset of Barbary, and others was given in the Diamond.

Pittsburgh was ten years old, with a population of about ten thousand, when the first steps were taken to build a theatre. The purchase money for a site was raised by subscription, which was selected on Fifth avenue and purchased for the subscribers by James A. Stevenson, a member of Congress at that time. Stevenson took a deed in his own name, and from some unexplained reason, he refused to convey it or an interest in it to his partners. This entailed a law suit, but the building was finally completed in the early fall of 1833, equipped with pretentious scenery, and was a first class house in comparison with the theatres of that day. It was leased to Fras C. Wemyss, who organized a stock company and secured Edwin Forrest, the greatest tragedian of his day. The theatre was a two-story building with a frontage of fifty-seven feet, and depth of one hundred and thirty feet, the interior was divided into two tier of boxes, seats covered with crimson cloth, edged with velvet and studded with brass nails. This building, which was called the Pittsburgh Theatre, with some internal changes stood until 1870.

It was during the thirties in the past century that Jim Crow Rice appeared for the first time in Pittsburgh, and Ethiopian melody received such a stimulation at his hands that it sprang into universal popularity.

The popularity given to Ethiopian melody in a measure directed the musical genius of Stephen C. Foster, and soon after 1840 his first great successes, "Uncle Ned," "Louisiana Belle" and "Oh Susanna," made their appearance. The demand was greater than the supply, and he was importuned to furnish new songs for the burnt-cork artists. The trend of the times was towards minstrelsy, and the Sable Harmonists and the Ethiopian Melodists became two well known negro minstrel organizations.

The music lovers soon frequented popular resorts, and here were heard from time to time the grandest voices and the sweetest music of the day. The decade of the forties was a wonderful advancement in the character of theatrical performances in Pittsburgh. In 1854 the Night-ingle Ethiopian Opera Company, composed almost altogether of home talent, gave entertainments in Masonic Hall and sang the first popular songs composed by Stephen C. Foster and Nelson Kneass. The legitimate opera and drama were neglected; the artists trained to present Shakesperean tragedies performed to empty houses.

In 1846, C. C. Porter was manager of the Pittsburgh Theatre. In the spring of 1846 John Oxley appeared as "Shylock" and other Shakesperean characters, and was followed by Edwin Adams as "King Henry IV," and a "Macbeth" was considered. The elder Booth appeared in repertoire, as "King Lear," "Richard the Third," and in other Shakesperean dramas. About the same time came James E. Murdock appearing as "Hamlet," and as Claude Melnotte in the "Lady of Lyons." Among the early comedians that delighted the Pittsburgh audiences were Owen Mestayer; James H. Hackett in his masterly role of "Sir John Falstaff," and Barney Williams, the popular Irish comedian. In the winter of 1846-47 the noted eastern actor, Edwin L. Davenport, and the Swiss Bell Ringers made their first appearance in the city. Matilda Herron commenced her dramatic career in Pittsburgh in 1848, then only a young girl. Her maiden effort was as "Camille," in which part she had but a few equals. Forrest played "Virginius" and "Othello" in that year, being then only forty-two years of age, in the prime of manhood, his acting never was excelled except by himself.

Apollo Hall continued to be famous for song entertainments, all the great singers of the day appearing there from time to time, which strengthened the musical impulse. As there was no theatre in Allegheny City, the public need seemed to demand another playhouse. Therefore, after continuous and strenuous efforts, William M. Foster opened the Pittsburgh Atheneum, January 25, 1848, with "Damon and Pythias," C. J. Smith in the leading role, making the second legitimate theatre opened, C. J. Smith being manager and principal actor.

In the summer of 1848, Phineas T. Barnum, America's greatest showman, exhibited his museum of curiosities. Samuel Lover, the distinguished Irish author, painter and actor, received an enthusiastic reception as a vocalist and story-teller. The famous Dan Rice Company Metropolitan and Hipodramatic Circus opened in July, 1848, the tent being crowded to suffocation. Van Amburg's Museum visited Pitts-

burgh that summer, and in winter of 1848-49 Dan Marble surprised the local theatre-goers with his wonderful versatility in the realistic drama, "Home in the West," and in the farces "Angel of the Attic," "All the World's a Stage," etc. In August, 1849, the Empire Minstrels gave their thirty-ninth consecutive entertainment, which demonstrated that Pittsburgh was fast becoming a metropolitan city. The season of 1849 opened with Fanny Wallack in a repertoire of "The Stranger," "As You Like It," "Romeo and Juliet," and other popular plays. December of that year, Junius Brutus Booth appeared as "Hamlet," "Richard the Third," and in other Shakespeare plays; in the casts filling minor parts was his son, Edwin Booth. During the winter of 1849-50, Frances Anne Kemble gave readings from Shakespearean plays, and in November, 1850, Charlotte Cushman appeared in "The Stranger," "Macbeth," "As You Like It," "Lady of Lyons," "Henry VIII," "Guy Mannering." She received a great ovation, and was the guest of honor at the homes of Pittsburgh's first citizens.

The Pittsburgh Theatre by this time was sadly in need of repairs; it was leased by Joseph C. Foster, and became known as "Old Drury." The languishment of the public in their attendance on theatrical performances was due to the surfeit of tragedies. Mr. Foster therefore turned his attention to spectacular displays and comedies. His scenic pieces surpassed anything ever before seen in Pittsburgh. This brought almost undreamed success to "Old Drury," but the cities had increased in population beyond the capacity of two playhouses and four halls, of which Masonic Hall was the largest; Wilkins Hall, Lafayette Hall and the Antheum were fully equipped, with large auditoriums. Jenny Lind, "The Swedish Nightingale," under the management of Phineas T. Barnum, appeared at Masonic Hall, April 26, 1851. The tickets were sold at auction, the first bringing fifty dollars; over a thousand tickets were sold at an average price of seven dollars. The entertainment was a delight, Jenny Lind being supported by artists of note. The only thing to mar the greeting of the famous singer was the clamor of the rough outside element, who demanded admission to the hall to see the great songster. The demand was so unruly that the lights were extinguished, and Jenny Lind and her company were obliged to remain in the hall until midnight before they could make their escape by the back entrance. Though the noted singer had been booked for a second appearance at Pittsburgh, on account of this episode the engagement was cancelled.

In the summer of 1851, on the appearance of Dan Rice with his circus, he was received at the landing by the populace with all the honors of a king or conqueror. The same year many exhibitions of legerdemain were presented, and the celebrated Fox Sisters gave entertainments of spirit-rapping and other manifestations. "Uncle Tom's Cabin" was played for the first time in Pittsburgh in January, 1854. The following year Maggie Mitchell made her initial bow to a Pittsburgh audience. The same year the French family of comedians, the Ravels, appeared in a variety performance at the "Old Drury." Adelina Patti sang

in Masonic Hall in March, 1856, when she was about thirteen years of age, and her singing then was compared favorably with the music of Jenny Lind. The matchless Edwin Booth, then twenty-four years of age, made his first appearance in 1857 in Pittsburgh as a star; the mantle of the gifted father had fallen on the son, and like his father, he enraptured his audiences as "King Lear," "Hamlet," "Iago," "Othello," etc. His popularity in the forty years of his stage life never waned; he drew larger audiences in Pittsburgh than any tragedian of his day.

The Foster's New National Theatre was opened in 1858 with a seating capacity of 1,500. It soon became a very popular house, and late in 1859 its name was changed to the Apollo. Among those who first appeared on its stage were Charlotte Cushman, James H. Hackett, James Bennett, and other noted actors of the day. The three nights that Charlotte Cushman played, undoubtedly the greatest actress of her day, the total receipts were \$930.25 of which she was paid \$400, while the orchestra, how many members we are unable to say, received the munificent sum of twenty-two dollars.

The Grand Opera House, as it is now called, was the successor of the old Pittsburgh Theatre; at one time it became known as the Grand Theatre. It was built in 1870, and it was opened by Charles Fechter in "Ruy Blas." Among the others who performed at this house were Patti, Parepa Rosa, Sarah Bernhardt, John McCulloch, Edwin Booth, Lawrence Barrett, Maggie Mitchell, Fanny Davenport, besides many others. For a half century this theatre has catered to the amusement loving public of Pittsburgh, but in late years has joined the moving picture entertainments. The Bijou Theatre was opened in 1875, two years later the Academy threw open its doors to the public under the management of Harry Williams, and for a number of years was the popular theatre of the city. The Duquesne Theatre was built in 1884, and is still among the popular amusement resorts. The actor, Charles L. Davis, in 1891 built the Alvin Theatre, which on its opening was pronounced the finest theatre in the city; popular actors and actresses, delineators of the legitimate drama were here seen; it is now devoted to vaudeville and reviews.

The first theatre opened in the East End of the city was the Empire, in 1895, with a stock company, presenting a wide range of repertoire. The other attraction in this locality is the Sheridan Square Theatre, devoted to vaudeville. Among the theatres in the downtown district is the Harris Theatre, a vaudeville house, under the management known as the Harris Amusement Company, a distinct Pittsburgh enterprise which also controls the Sheridan Square Theatre at East Liberty, the Wonderland Theatre and the William Penn Theatre, with high grade moving pictures, all giving continuous performances. The Harry Davis Stock Company, another Pittsburgh enterprise, controls the Alvin Theatre, presenting first class road companies, and under this management is also the Davis Theatre, built and opened in 1915, a member of the Keith's circuit, where the highest class refined vaudeville entertainments are given. Under this management are also the Grand Opera House and the Lyric Theatre. The Lyceum Theatre belongs to the Loew's circuit,

and is devoted to vaudeville and moving pictures. The Gayety and the Victoria are burlesque houses. The Schenley Theatre in the Oakland district of the city offers concerts, kermeses, opera and special feature attractions. The vaudeville house of the North Side is the American Theatre. Scattered throughout the city are the film shows, some of them housed in attractive buildings where every convenience for the comfort of their patrons are offered. The most prominent of these is the Pitt Theatre, on Penn avenue, where the highest class of moving pictures are presented but does not confine itself wholly to the class of entertainment, at times presenting first class road companies. The Nixon Theatre, the largest and finest playhouse in the city, was constructed in 1903, at a cost of \$1,500,000. It is the home of the legitimate drama, and on its stage is to be seen the dramatic successes that have gained popularity in New York City. The theatre is amongst the finest of the playhouses in America, and was built under the supervision of the well known theatrical architect Benjamin H. Marshall, of Chicago.

The largest public auditorium in the city is the Duquesne Garden, which was rebuilt from the street railroad car barns on Craig street, in the summer 1898, for the reception and entertaining of visiting Knights Templars who attended the twenty-seventh triennial conclave, October 10th to 14th in that year. The Garden is a brick structure, lighted with three thousand incandescent lamps, with a seating capacity of eight thousand people and a dance floor accommodating thirty-five hundred couples. In the winter season, by a process of artificial refrigeration, it is turned into one of the largest and most beautiful skating palaces in the city. In the regular season, extending from the middle of April, hockey games are played between the Duquesne Garden team and the leading teams of Canada and the United States, the National and International indoor skating championships take place in this rink.

The music loving people of Pittsburgh have their conservatories, choruses and clubs. The Pittsburgh Conservatory of Music was established in 1894, on the fourth floor of a building on Fourth avenue, and removed in 1903 to Dithridge street. The Conservatory, in a well appointed building, exclusively devoted to music, has become widely known in Western Pennsylvania. Public recitals are given in a handsome hall, seating about five hundred people, without charge of admission. The founder and the only director since its establishment is Beveridge Webster. The Pittsburgh Musical Society, an organization of the members of the theatrical orchestras, came into existence in 1904 with Andrew G. Reis as president, and headquarters on Wood street. There was a change in 1907 in the presidency, when William L. Mayer became the occupant of the office. After serving one year he was succeeded by M. B. Howard, and in 1911 Mr. Mayer again became president, a position he holds at the present day. One of Pittsburgh's popular musical organizations was the Mozart Club, organized in 1878 and incorporated in 1886, and was during its existence of over fourscore years under the leadership of James P. McCollum as conductor. It was the practice of the club to give three or four concerts each year, oratorical in character, and

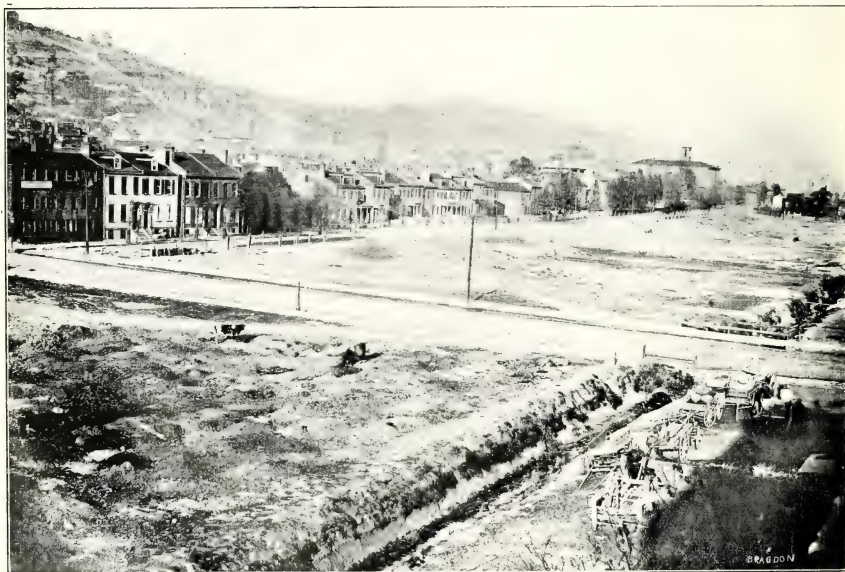
including an annual presentation of the "Messiah," with noted soloists from other cities. The Apollo Club, which is still in existence, was organized in 1894, and has had for over twenty years Rinehart Mayer for its musical director. The club gives two concerts annually in Carnegie Music Hall, and a concert and reception at Hotel Schenley.

Among the organizations that have played an important part in the musical history of the city was the Pittsburgh Orchestra, which at the commencement of the present century had for its conductor the well known musical composed Victor Herbert, who succeeded Frederic Archer, the founder of the organization. Mr. Herbert in 1904 resigned and Emil Paur was chosen his successor. The Pittsburgh Orchestra enjoyed a brilliant career for several years, but owing to the antagonism of Labor Unions, who in every way possible prevented the importation of high class performers from European countries, about 1910, it was obliged to relinquish the musical field of art. Though efforts were made to revive the organization and the Pittsburgh Orchestra Association was formed for the purpose of arranging for concerts, the organization finally went into dissolution. There is, however, a strong desire and hope amongst the music loving people of Pittsburgh that a reorganization may be effected. The Pittsburgh Male Chorus, organized September 1, 1905, the Mendelssohn Choir of Pittsburgh, and the Ringwalt Choral Union, have been important adjuncts in the musical life of the city. There was about 1910 an epidemic of organizing singing societies, many known as liederkranzes and saengerbunds, and there were societies whose members were composed of natives of European countries. The late war, however, has eliminated the existence of many of these singing societies; the prominent ones of the present day are the Beethoven, Tuesday, and Victoria Musical Clubs.





NORTH AVENUE BUILDING



NORTH COMMON IN 1868

CHAPTER XXXVI.

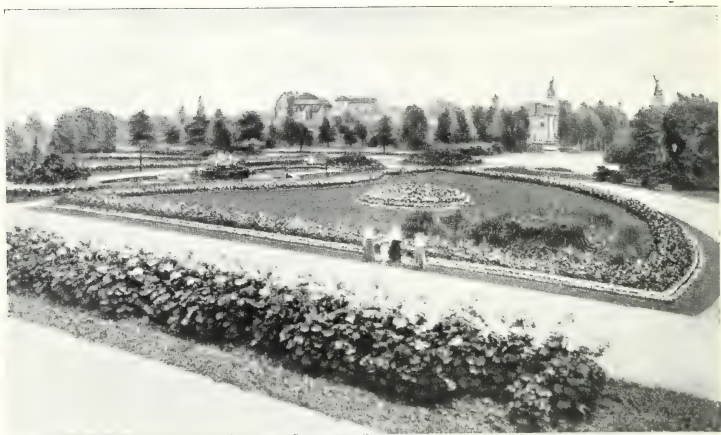
The System of Parks.

The wise provisions of the Assembly of Pennsylvania in the original plotting of the village to establish "The Commons," thus conforming in this respect to eastern localities to beautify the landscape and provide for the health of its inhabitants, placed Allegheny City far in advance of her neighboring surroundings. The East and West Commons naturally in course of time became East and West Parks. The two parks contain one hundred acres of level land, with beautiful flower beds, fountains, trees and shady walks. Located in the heart of the business section of the North Side, they are easily accessible. The conservatory presented by Henry Phipps is close to Lake Elizabeth, in West Park, which is also equipped with shelter houses, children's bathing beach, band stand, tennis courts, and other attractions. The West and East parks are connected by narrow strips of land known as North and South Parks. The largest of the North Side parks is Riverview Park, containing 240 acres of natural park land, improved by landscape gardening. There are many beautiful drives, shady paths and scenic attractions, and from its summit the Ohio river and its valley present a pleasing prospect. The Allegheny Observatory is one of its prominent features—a marble building on a prominent elevation, which can be seen for miles. There is also a small Zoological Garden, a merry-go-round, and shelter houses. Monument Hill Park is really a part of West Park, and is extremely attractive with its lofty flagpole, Soldiers' Monument, and a view not surpassed of the surrounding environs.

The only public park in Old Pittsburgh prior to last decade of the past century, was a narrow strip of unimproved ground, a square long, in the middle of a street. The people of the city had never enjoyed parks, therefore were not in sympathy to acquire them. It became the life work of Edward Manning Bigelow to educate them to the value of these breathing spaces for humanity in a close packed community. Mr. Bigelow was a product of Pittsburgh, having entered upon his existence November 6, 1850. He matriculated at the Western University of Pennsylvania, but before it became time for his graduation he withdrew from his class to accept the position of city engineer, which he held until a revision of the form of municipal government in 1888, when he became director of the department of public works, to which position he received numerous reëlections. More than thirty years of his occupancy of this office was filled in the absolute direction of all municipal improvements, and it was largely through his efforts that has been wrought in Pittsburgh, what rivals Hausman and Shephard in the two great capitals of Paris and Washington. During his terms of office the water and sewerage systems were perfected, and street pavements laid and rebuilt. His greatest work, however, was the creation of the public parks, and his endeavors in this line were rewarded by the people by bestowing on him the title of

"Father of the Parks," also by the erection by subscription before his death, of a handsome monument located in the most important park in the city. From small beginnings, first in the guise of improving and beautifying the ground about the reservoirs, Mr. Bigelow added one purchase of land after another until in 1895 the city owned an aggregate of 900 acres. The largest of these parks was Schenley Park, in which Mr. Bigelow, with Robert B. Carnahan, was instrumental in obtaining as a gift three hundred acres from Mrs. Mary E. Schenley, the city afterwards purchasing from her at the normal price of \$200,000 additional ground, making the present area 434 acres of natural land, which has been improved by drives, bridges, walks, landscape gardening and the planting of thousands of trees and bushes. There are also several monuments and memorial tablets in this park, described elsewhere in this work. Among the attractions are a half-mile race track, with a grandstand seating 3,000 people, stabling for thirty horses, golf links, tennis courts, merry-go-round, swings, all free to the people. The Phipps Conservatory and Hall of Botany, costing \$2,000,000, the gift of Henry Phipps, interests all who love flowers. It is the second largest conservatory in the world, filled with rare and beautiful specimens of plant life from all countries, the beauty and gorgeousness of the floral displays not to be surpassed. A riot of color is presented with glass rooms banked with flowers arranged with colors separate and so blended as to fully harmonize. In these floral displays are blooms eight to ten inches in diameter. Annual exhibitions of chrysanthemums and orchids are held in this, as well as at West Park, and more than five thousand specimen blooms of chrysanthemums have been shown. Just beyond the conservatory is Panther Hollow, a deep and romantic gorge crossed by a bridge, with bronze crouching panthers, designed by Moretti, on each portal. Underneath is Panther Lake, with its boats and boathouse. The serpentine driveways are an unusually attractive piece of road making, and adds to the wonderful natural beauties of the park.

Up through East Liberty Valley to the northeast of the city proper, lies Highland Park, on the hills overlooking the waters of the Allegheny river. In it are three large reservoirs which furnish the greater portion of the city's water supply. The original park was opened in 1893, containing forty-six acres, but has been increased by subsequent purchases to 366 acres. At the grand entrance to the park are two pillars of highly artistic design, erected at a cost of \$45,000. The Zoological Gardens, a Christmas gift in 1895 from Christopher L. Magee and his associates of Fort Pitt Traction Company, is located in this park. The yellow vitrified brick building, forty by seven hundred and fifty feet in dimensions, was finished November 13, 1897; to this have been added lesser buildings, steel cages, and outdoor apartments. Prior to the opening of this Garden, a small collection of animals in Schenley Park was maintained, consisting of an elephant and some smaller specimens. The present collection exhibits wild animals of foreign lands, feathered specimens of the globe, with the peaceful and graceful inhabitants of our own forests. The grounds of the park are artistically planned, and beautifully laid out



MAIN ENTRANCE, HIGHLAND PARK



BOAT LANDING, WEST VIEW PARK

with winding driveways over the hills and down through the valleys. Carnegie Lake is a pleasant boating spot in summer, and popular for skating devotees in winter. The pleasure park of the South Side is a tract of sixty-three acres of natural land, purchased by the city May 7, 1898. It is located in what was old Belzhoover borough, and was first called Maple Park, which has been changed to McKinley Park. The park has been improved by roadways, bridges and walks, with shelter houses, bandstand, baseball grounds and other attractions. The scenery in its neighborhood is highly romantic, and ever a feast to the eye.

There are thirteen small public parks in the city, some of them on the hilltops, which afford magnificent outlooks. The Arsenal Park, containing nineteen and nine-tenths acres, is in the southern portion of what was formerly the United States Arsenal grounds. It was traded to the city for property adjoining the Carnegie Institute on Forbes street, where an experimental station of the Bureau of Mines is located, which was removed from this location. The park has shelter houses, a band stand, and is fitted up as a children's playground, equipped with a field house with a gymnasium, game and club room, and children's playroom and baseball ground; the property cost \$218,774.50. The Bluff Street Park is a mere strip of walks, shrubbery and gardening, overlooking the Monongahela river at the top of a precipitous height known as the Bluff. Near the William H. McKelvey School is a park of four acres known as Central Park, the site of a city reservoir. A breathing spot in the widening of Friendship avenue, 900 feet in length and 100 feet in width, was a gift to the city from Mrs. Mathilda Gross McConnell; it is named Friendship Park, handsomely laid out with fine floral effects. On the summit of the highest hill in the city is Herron Hill Park, containing thirteen acres. Within its bounds is the Herron Hill Reservoir that supplies a large portion of the hill district of the city. The view is one of the finest in the city and most widely extended, it being possible on a clear day to see thirty-six miles east. Herron Hill contains a music pavilion, ball ground, and a high steel flagstaff; it is the site of Fort Herron, one of Pittsburgh's defenses in the Civil War. Lawrence Park, in the upper Lawrenceville district, is a pretty and well kept park of about five acres. Monument Park, on the North Side, has already been mentioned. West End Park, near the Noblestown road, has an area of seventeen and a half acres, containing a shelter house, pavilion, concert grounds, and a tennis court.

On Mount Washington is Grandview Park, containing eighteen acres; adjoining are three huge tanks for storage of water for the contiguous South Hills territory. The park affords an exceptionally good view, and within its confines are a music pavilion, a shelter house and a merry-go-round; in the summer season concerts are given. Holliday Park, on Duquesne Heights, with an area of three and a half acres, is used principally for picnic parties. Near Mt. Washington, stretching out to the valley below, is Olympia Park containing a little over nine acres in which is a shelter house, two tennis courts, and ball ground which is flooded in winter for ice skating. The city in 1908 bought a

tract of land of twelve acres on Mount Washington, which is known as Wilbert's Grove, but it is not in an improved condition. The tract for the Sheraden Park comprising twenty-three acres was purchased by the city in 1913. The cost of the property was \$14,500, and it has all attributes for a beautiful park, with great recreational possibilities.

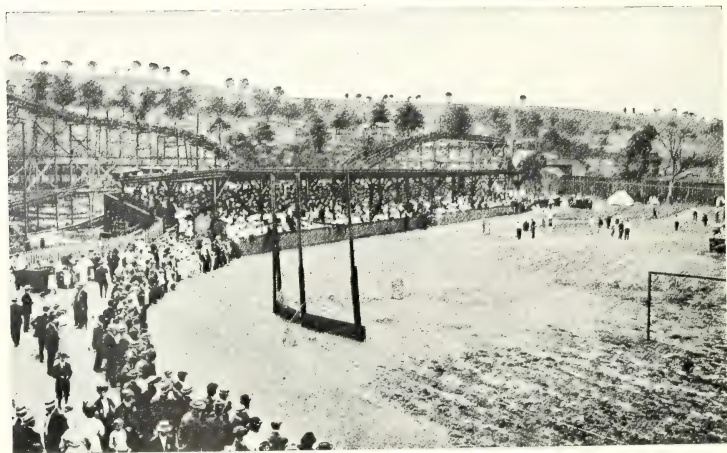
The city properties used for playground and recreation purposes prior to 1912 were only three; in addition, there was one property owned by the Board of Education, and another leased from the United States Government. A bond issue of \$800,000 was voted by the people for the purchase of additional playground property and equipment, which was expended in 1913 and twelve centers in different parts of the city were bought and devoted to this purpose. A Playground Association then in existence was asked to submit a general playground and recreation scheme, and to work with the City Planning Commission, to suggest the location of the sites to be purchased and to assist in their purchase. When the city took over the playgrounds, the Association after an existence of nineteen years was dissolved. Among the three parks owned previous to this bond issue was Lawrence Park, previously described, which was made a recreation park, equipped with two brick and concrete field houses containing gymnasiums, children's playrooms, library, game and club rooms, shower baths and locker rooms, a swimming pool, a wading pool, and sand bins; also an athletic field and outdoor gymnasium. In the Hill District, on the site of two abandoned reservoirs, was Washington Park, with an area of three and one-half acres, on the hillside above the Pennsylvania station, below the Central High School. It was equipped with a large field house containing gymnasium and auditorium, library, game and club rooms, children's playrooms, shower and tub baths, locker rooms, etc. A second field house contained a supplementary gymnasium; there is an athletic field with bleachers having a seating capacity of 5,000 people, an outdoor gymnasium and a playground for small children.

On the South Side, Ormsby Park is two and three-quarters acres in extent, with two small field houses containing the usual equipment, also an athletic field, outdoor gymnasium, outdoor basketball courts, tennis court and swimming pool. South Side Park is owned by the Board of Education; its usefulness as a park has been considerably curtailed by the erection of temporary one-story structures to provide for excess pupils of the South High School, which it adjoins. There is, however, a small field house with gymnasium, game room, athletic field and outdoor gymnasium. On the site of Fort Ormsby, erected in 1863 for the protection of the city, is Arlington Park of three and one-fourth acres, with athletic field, swings, sandboxes, etc.; the property cost the city \$31,360.

Burgwin Park, in the Hazelwood district, contains five acres of fine old oaks, some of which have been felled to allow for a ball field; swings are hung from the trees themselves. The cost of the property was \$23,750. Lewis Playground is also in Hazelwood, bought in 1913 at a cost of \$29,020, and contains two and one-half acres. A large dwelling



HOME OF STEPHEN C. FOSTER, PENN AVENUE



ATHLETIC FIELD, KENNYWOOD PARK

house on the property is used as a field house; besides, there is a baseball field and children's playground. Adjoining the Fort Pitt School is Garfield Park, of four acres; the school building contains gymnasium, showers, etc., and the playground has an athletic field; the cost of the property was \$11,326. The Soho Park, though only four and one-half acres, being centrally located, cost \$80,750. Another costly investment was Wabash Playground, which entailed an expense of \$108,280. The former grounds of the West Penn Hospital consisting of sixteen and one-half acres were purchased for \$90,000; a field house containing two gymnasiums, club room, playroom for small children, showers, toilets, also a custodian's residence were erected; athletic girls' and children's playgrounds were laid out. On the North Side the Phipps Playgrounds was a gift to the city from Henry Phipps. It is in the neighborhood of his boyhood home on Reedsdale street, where he and Andrew Carnegie were boys together. The playgrounds on the South Side are the Cuthbertson Playground of about one acre in extent on Mount Washington, adjoining the Cargo Public School, with a small baseball field, a shelter house, besides the usual playgrounds for girls and small children; the cost of the property was \$8,000. The Ream Playground, also on Mt. Washington, two and one-quarter acres, was acquired at the expense of \$17,500. An old residence is used for a shelter house, and trees give plenty of shade. It has the general equipment, besides a baseball field, and playgrounds, Warrington Park, in the Beltzhoover district, was procured at an expense of \$65,200. It is an all year center, containing two and a quarter acres, on which are a field house, custodian's residence, athletic field, and a playground for girls and small children.

The acreage of the park system of Pittsburgh is approximately 1,350 acres, which places her sixth amongst the cities of the United States, being exceeded by New York, Philadelphia, Chicago, St. Louis and Boston. Thus through the foresight, energy and business activity of Edward Manning Bigelow, her citizens, both old and young, enjoy the blessings of Nature's resorts, which give health and breathing spots to occupants of her cramped and compact tenements. Pittsburgh's parks are absolutely "free to the people"; they are not encumbered by the obnoxious sign, so frequent in other cities, of "Keep Off the Grass!" The public is allowed to the fullest extent the privilege of wandering in their domains, the utmost confidence being felt that they will use their common sense and not deface what the city so bountifully offers them. The larger as well as the smaller parks are used for picnic purposes; appropriate kitchens are attached to the shelter houses, while tables and benches are provided for serving luncheons. Pittsburgh's people are reasonably proud of their parks as they are conducted not for mere show places to be simply walked through, but for them to obtain real enjoyment for themselves and their families in their own way.

CHAPTER XXXVII.

Past and Present Industries.

That the foundation of the earliest industries of Pittsburgh were laid at the time of the construction of Fort Pitt, there is ample evidence to substantiate. The stimulus thus created was no different than that of other towns in the great highways of travel in the early colonial period. The extent of manufacturing was limited, however, to articles of wearing apparel and some of the cruder implements and utensils for daily use. In the building of Fort Pitt large quantities of bricks, scantling, planking and squared timbers were used; of the latter material the surrounding forests furnished ample raw material. Over a million of bricks were used in its construction; some historians have made the claim that they were made in England and transported over the mountains. This hardly seems reasonable, as the early records of Pittsburgh name brickmaking amongst its industries, and from minor improvements made in those days which survived into the past century, brick was used in the construction, giving ample evidence of the plentifulness of the article without being carried over the mountains at a great expense.

That boat building was an early industry would be a natural result; the forests furnished the material and the navigable rivers the demand. There were three ship carpenters in the enumeration of the inhabitants in 1761, and doubtless boats were built during the occupation of Fort Duquesne by the French. The first boats constructed were unquestionable bateaux for the transportation of the trader's peltry and provisions. Keel boats soon followed, with a capacity from twenty to thirty tons; some of the larger ones were designated as "arks" capable of loading enough people, with their cattle, to form a settlement. The shipyards of Pittsburgh were mentioned as early as 1766 by travelers; during the Revolutionary War, gunpowder was brought by boats from New Orleans, and bateaux were built for the transportation of troops.

It was not, however, until the commencement of the nineteenth century that any substantial foundation was to be laid for shipbuilding, which was to become the leading industry of Pittsburgh for the first quarter of that century. A company of French merchants of Philadelphia under firm name of Tarascon, Berthoud & Company commenced in 1801 the building of vessels and keel boats to navigate the Ohio river. The originator of the undertaking was Louis Anastasius Tarascon, a wealthy and enterprising Frenchman who established himself in 1794 in Philadelphia as an importer of silk, French and German goods. He sent in that year two of his clerks, Charles Brugiere and James Berthoud, to prospect the Ohio and Mississippi rivers from Pittsburgh to New Orleans to ascertain the practicability of clearing ships from Pittsburgh to the West Indies and Europe. Their report was favorable, and Tarascon in 1801 sent his brother and others with twenty-six ship carpenters, joiners and other mechanics to Pittsburgh. A wholesale and retail store

was established, warehouses built, a ship-yard, rigging and sail loft, anchor shop, block manufactory, and everything necessary to complete a vessel for sea. The firm built in the summer of 1801 the schooner "Amity," of 120 tons burthen, and the ship "Pittsburgh," of 250 tons burthen. The following spring the schooner sailed for St. Thomas, having flour as a cargo, and the ship, loaded with flour, to Philadelphia, thence to Bordeaux, France. The next year the brig "Narino" was launched, with a tonnage of 250 tons; the following year the ship "Louisiana," of 300 tons, and the ensuing year the ship "Western Trader" of 400 tonnage. The "Louisiana" was ballasted with coal and other articles and sent to Philadelphia, where the coal sold for thirty-seven and a half cents a bushel.

Previous to this time, travel and traffic on the western rivers was carried on exclusively in flatboats, several months being taken on a passage from New Orleans; the first ascent being made by thirty bateaux from the Mississippi river with one hundred and fifty men with supplies for Fort Duquesne. As already mentioned, on February 23, 1777, fourteen carpenters were sent from Philadelphia to the Monongahela river, fourteen miles below Fort Pitt, to build thirty bateaux forty feet long, nine feet wide, thirty-two inches deep, to serve in transporting soldiers.

From 1801 to 1805, besides those already mentioned, the following were built in Pittsburgh: The ship "General Butler"; the schooners "Allegheny," "Conquest," "Monongahela," and "Farmer." The "Ann Jean," the last of the 450 tons burthen ships built in this vicinity, was launched at Elizabethtown on the Monongahela. Tradition states that a Pittsburgh vessel visited an East India port and was about to be confiscated by the customhouse official, because they had no record of any such clearing port. The captain of the ship traced upon a map his circuitous route backward to the headwaters of the Ohio and thence secured a release of his vessel.

The marked era in the commercial history of the Western States was the construction in Pittsburgh of the steamboat "New Orleans." It was built by Robert Livingston, Robert Fulton and Nicholas I. Roosevelt, 138 feet long, 30 feet beam, and between 300 and 400 tons burthen. The steamboat was wholly constructed in Pittsburgh—engine, boiler and machinery, at a cost of \$40,000. The launching took place in March, 1811, and she started on her initial trip for New Orleans on October 29, 1811.

Though steam navigation was a success in eastern waters, the tortuous and varying channels of the western rivers had not been solved. On the initial trip of the "New Orleans," the only passengers were Mr. and Mrs. Nicholas I. Roosevelt, the crew, an engineer, captain, pilot and six hands, two female servants, a cook, waiter, and a Newfoundland dog. The people of Pittsburgh assembled en masse to bid the steamboat a speed voyage which was to change the relations of the West. On the second day, Cincinnati was reached, and two days later the boat reached Louisville. Here a public dinner was given to Mr. Roosevelt, he reciprocating with dinner to his hosts on board of the steamboat. In

the midst of the festivities, rumblings were heard, a perceptible motion of the vessel was noticed, and the company on reaching the upper deck found that instead of drifting towards the Falls of Ohio, the New Orleans was making good headway up the river, leaving Louisville in the distance down stream. The voyage, however, was not resumed, owing to low stage of water, until the last week in November, and was daily confronted with peril and fright, beginning with thrilling passage over the Falls at Louisville, followed by days of darkness attendant upon the comet of 1811, the earthquake of that year, pursuit by Indians, and fire on board, but in course of time the "New Orleans" reached Natchez. From this port to New Orleans there was no occurrence worthy of note. The steamboat plied between Natchez and New Orleans as a common carrier until the winter of 1814, when she struck a snag and was lost at Baton Rouge, Louisiana.

The demonstration of the practicability of steam navigation of the western rivers led to the building of other steamboats. The "Comet" of 75 tons, the "Vesuvius" and "Etna" of 390 tons each, were soon launched. The two latter were to ply between Louisville and New Orleans, and in July, 1814, the "Vesuvius," with a cargo, made one-half of the distance in ten days, thus demonstrating the ability of loaded boats to stem the current of the largest rivers by steam. The "Enterprise," a steamboat of seventy-five tons burthen, built at Brownsville in 1814, arrived at Louisville from New Orleans, her destination being Pittsburgh, in the summer of 1817. This was the first steamboat to make the up-river trip. There were in 1818 thirty steamboats built in the West, Cincinnati and Pittsburgh leading in the industry. Among those launched at the latter port was the "Buffalo" of 300 tons burthen; the "James Monroe" of 90 tons; "Franklin," 125 tons; "Oliver Evans," 75 tons; "George Madison," 200 tons; "General Jackson," 200 tons, besides others.

The steamboat "Independence" built in Pittsburgh, arrived at Franklin (Boonstick) on the Missouri river, May 19, 1819, and was the first steamboat to stem the current of that river. However, in that year, there was built at Pittsburgh the "Western Engineer," which formed a part of Major Stephen C. Long's expedition to the Rocky Mountains, and was the first steamboat to reach Council Bluffs, Iowa, 650 miles above St. Louis, on the Missouri river.

The increase in the first decade of the nineteenth century of the shipping interests in western waters was 108 steamboats engaged in the carrying trade: of these 89, aggregating a measurement of 18,000 tons, were employed on the Mississippi river. There was a great revival of steamboat building in 1823; seven boats measuring 960 tons were built at Pittsburgh. The average passenger rate from Pittsburgh to Cincinnati, 449 miles, was twelve dollars. The time consumed on the journey was sixty hours; the return trip, however, took fifteen hours longer; the fare being fifteen dollars. Steamboat building reached the zenith of its height when in 1836 sixty-one were launched at Pittsburgh, with a valuation of \$960,000. The activity of the steamboat business in 1839 is illustrated by the fact that from January 13 that year, the time navigation opened, to

August 1st, same year, 1,141 boats arrived and 1,134 departed from the port of Pittsburgh, while there were 51 detained in port receiving or discharging freight, or laid up for repairs. There were also four steamboats plying regularly on the Allegheny river to Elizabeth, Pulaski, Forrest and Beaver, also a line to Kittanning, Franklin and Warren. At the period of the Civil War, Pittsburgh had a continuous river communication with sixteen States and Territories, embracing four hundred counties peopled with 5,000,000 to 6,000,000 persons, covering 11,212 miles of navigation, with three avenues of water to the ocean. The advancement of railroads into these marts of commerce and the time used in transit shortened, were improvements in inter-state communication that the steamboats could not compete against. Therefore, in the survival of the fittest, their days of prosperity and glory were over, and the industry as a paying investment became one of the lost enterprises of the city, that had devoted its energies largely to the advancement of her iron and steel interests.

One of the important adjuncts to shipbuilding was the establishing of a ropewalk by John Irwin in Allegheny City. Cordage of all kinds were made, from the smallest wrapping twine to the largest ship cables. Employment was given to eight hands, the annual production being about \$15,000. The cables for Commodore Perry's fleet were largely manufactured by this ropewalk; two of them weighed almost 4,000 pounds each, and were four and a half inches in diameter. Later, Mr. Irwin had competitors, but with the extinction of the shipbuilding industry, ropewalks became unprofitable and the industry was abandoned.

The great event in the growing borough in 1804 was the establishment of the first cotton factory, by Peter Eltonhead, the capital having been raised by public subscription. The manufacture of cotton and woolen goods at one time played an important part in the industrial life of Pittsburgh. Small factories had sprung into existence, located on the small streams of Western Pennsylvania, the spindles and looms propelled by water power. They were mostly engaged in manufacturing woolens, but with the Mississippi river passing through the Cotton States, Pittsburgh at the time of the War of 1812 seemed an inviting field for the manufacture of cotton fabrics. The pioneer adventure above mentioned had ceased at this time to exist, and this, with the war, causing cotton goods to command a high price, induced Hugh and James Jelly to build a cotton factory in Northern Liberties, now in the Lawrenceville section of Pittsburgh. Peace had been declared before the mill was ready for operation, and there being no duty to materially interfere on textile fabrics, the country became flooded with English goods and prices rapidly declined. The result was that Pittsburgh received untold quantities of imported fabrics at a much lower rate than they could be spun and woven. This was so disastrous that for years nothing further was attempted in this line of industry. The Jelly's factory stood deserted, fast falling into decay. It was not until 1819 that James Arthurs & Son opened a steam cotton factory on Strawberry street, near Cherry alley. The machinery consisted of one throstle of 120 spindles and one

mule of 168 spindles, with necessary apparatus for carding. Thirteen hands were employed, principally in the manufacture of fine yarns. Adjoining the factory was a woolen mill owned by the same firm, propelled by a steam engine, employing thirteen hands, which manufactured broadcloth, cassinets, carded and spun wool, and dressed cloth. On the ruins of the old Jelly's mill, two commission merchants, Allen and Grant, in connection with James Adams and James S. Craft, erected what was known as the Phoenix Steam Cotton factory. Improved skill and valuable inventions were introduced; in the spring of 1822 they brought a large amount of machinery from Providence, Rhode Island, besides many skilled workmen. The establishment contained upwards of 2,700 spindles, producing daily about seven hundred weight of yarn, weaving this into four hundred and fifty yards of cotton cloth, the annual production reaching in valuation \$100,000, and giving employment to 170 persons. Their success prompted others to engage in cotton manufacturing. John McIlroy in 1825 had in operation on Wood street, between First and Second streets, a cotton factory which with the coloring department gave employment to 155 wage-earners, and three-quarter plaids, fancy striped and checked cotton cloth goods, were made, which at a value of fifteen cents a yard made the annual output \$54,540. On the same street, between Sixth and Liberty streets, James Shaw employed seventy hands on plaid and checked cotton goods. Thomas Graham built a large mill on Market street, between Fifth and Liberty streets, equipped with thirty-four hand looms, which produced daily, with forty-five hands employed, 688 yards of various styles of cotton cloth. Tilford & Sons had near Pittsburgh an eight-loom mill, employed on cotton fabrics, besides weaving annually 36,000 yards of cassinets and woolen carpeting. These industries were protected by the tariff law of 1824, which imposed a thirty per cent duty on foreign textiles.

The woolen factories besides the one already mentioned, were Hendrick & Gibbs', on the corner of Liberty street and Diamond alley, a small concern manufacturing less than \$5,000 worth of cassinets on two looms, and carding and spinning wool for the country trade, the Fleeceedale woolen manufactory, a few miles west of Pittsburgh on the Steubenville road, which was owned by A. & J. Murphy. The machinery was driven by waterpower; the equipment was two carding machines and one mule of ninety spindles; attached to the plant was a fulling mill and dyeing establishment, employment being furnished for sixteen hands. These woolen mills, however, had been superseded by George Cochran, who as early as 1812 manufactured superfine and common broadcloth, blankets, paper maker's felting, hosiery, kerseyettes and satinettes, on the corner of Diamond alley and Liberty street.

The Pittsburgh Manufacturing Association was started about 1820 by a few of the manufacturers of the city for the purpose of opening a warehouse on Wood street for the reception of domestic goods to be placed on sale, that the Western merchants visiting the city could have the opportunity of viewing the various articles produced in the city and its vicinity. The first president of the association was George Sutton.

The raw material for the early cotton factories was obtained from the cotton producing States, transportation being made by way of the Ohio river, but low water in the summer months was a serious handicap. The factories could not use more than 13,000 bales of cotton a year, therefore a constant cotton market could not be maintained. This occasioned a long investment of raw material, and hindered the Pittsburgh factories in realizing a quick return on their investment. Another ill which befell them was the tariff laws of 1832-33 which made a heavy reduction on cotton goods, but by industry and economy seven large factories continued to exist and increase their product until 1847. These factories were the Hope, Eagle, Union, Pittsburgh, Penn, Star and Allegheny factories, using about 12,900 bales of cotton, giving employment to 1,405 wage-earners and producing nearly a million dollars worth of products. Labor troubles arose in 1848; a day's work was twelve hours, and the legislature of that year limited it to ten hours. The Pittsburgh manufacturers claimed they were laboring under difficulties to compete with eastern firms, and decided to reduce wages corresponding to the hours employed. The result was a general strike among the employees and the factories closed down. The strikers became obstinate, employers were decried as tyrants, robbers and oppressors, and refused to negotiate only with the men direct, ignoring their leaders. This action brought on a series of riots in which even the wives and daughters of the employees joined. As the fall of 1848 progressed, the conflict became more bitter; many of the rioters were indicted by the grand jury, true bills being found against them, among whom were five women. The manufacturers were obliged to investigate for a change of location, and the "Pittsburgh Riots" became famous throughout the country. This was about the time of the discovery of gold in California. The usual overland trip began at Pittsburgh, by going down the Ohio, therefore many of the dissatisfied employees joined the ranks of goldseekers, and Pittsburgh furnished more than her share of those who sought the precious metal on the Pacific coast. The strike ended with the usual result; the factory employees resumed labor at a sixteen per cent reduction on their wages for a ten hour day, though by special contract many of the factories worked twelve hours per day, the ten-hour law being practically disobeyed by both employer and employee. The cotton industry has long ceased to be a factor in the industrial life of Pittsburgh, at the close of the Civil War, slavery having been abolished, the Southern States engaged in producing cotton found it more profitable to locate factories in the cotton belt, thus saving transportation on the raw material, also labor could be obtained cheaper; for these reasons the manufacturing of cotton goods was removed largely from the Northern to the Southern States.

The manufacture of salt at one time played an important part in the industrial activities of Pittsburgh. In and around the city, salt was obtained in abundance and of excellent quality, in aqueous form from wells or springs in the midst of coal, oil and gas. The first discovery of a salt spring in Pennsylvania was in 1816, at or near Saltzberg, Indiana

county. In the middle of the last century in Pittsburgh, the Union Salt Works produced from a flowing well about three hundred barrels of salt a day. Another flowing well, having a capacity of one hundred barrels a day, was operated by Graham & Allen. The Pennsylvania Salt Manufacturing Company obtained a charter from the legislature of Pennsylvania, September 25, 1850, with a name as a misnomer. Their primary object was not to manufacture salt; there was not at this time any law to charter a company for the manufacture of chemicals, though a general law contained the clause under which a company could be organized for the manufacture of salt and the products derived therefrom. The company's main object was to manufacture soda ash, which is by one process a direct product of salt. Extensive works were erected at Natrona, some twenty-four miles from Pittsburgh, on the line of the Pennsylvania canal. The name of the location was taken from Natron, the native carbonate of soda, and it soon became a thrifty substantial village, the works covering twenty-five acres. Soda ash was manufactured under the Le Blanc process, the decomposition of salt by sulphuric acid and its calcination with limestone and coal-dust. Owing to cheap foreign labor, the crude form of the carbonate of soda which was largely used in the manufacture of glass and soap, was abandoned, and a higher and better grade was substituted, known as sal-soda, bicarbonate of soda, and caustic soda, all purer and more finished articles. An office was maintained by the company at Pittsburgh, and is at the present day engaged in the manufacture of chemicals.

The manufacture of white lead was one of the early ventures. In 1826 there were three industries of this character in the city. The Avery & Co. white lead factory was established by James S. Stevenson; it was situated on Penn avenue, between Hand and Waune streets and produced 3,000 kegs annually. The Brackenridge & Porter factory, near the corner of Sixth and Liberty streets, was built in 1827, and from the start was a successful industry, producing 2,400 kegs a year of white lead. A small concern was Brunot's white lead factory, whose total output was 1,200 kegs, thus making an aggregate of 6,600 kegs manufactured in the city, the wholesale price being three dollars and a half a keg, making a total valuation of \$23,100. T. H. Nevin & Co. in 1841, located at the corner of Grant street and Western avenue, Allegheny City, employed thirty hands in the manufacture of white lead and colors. The Standard White Lead Works established in Allegheny City in 1867, employed forty hands, and had an annual capacity of 2,500 tons; the Pennsylvania White Lead Works on River avenue, employed thirty males and produced 1,800 tons a year. The works of Davis, Chambers & Co., on the South Side, were established in 1865; employment was given to forty-five hands, the annual production being 2,000 tons. The Keystone Lead and Color Works, established in 1870, were corrodors and manufacturers of strictly pure white lead, dry and in oil; employment was given to forty hands, 1,000 tons of manufactured goods being made annually. The Fahnestock White Lead Company, incorporated in 1872, was the outgrowth of B. L. Fahnestock & Co., founded in 1857. Their

works on Liberty street were destroyed by fire in 1872, and the works were removed to Dallas Station, on the Pennsylvania railroad. These concerns, with the exception of the Keystone Lead and Color Company, still continued doing business in 1890. At the present day, there are eighteen manufacturers in the city engaged in producing paints and varnishes. They have a capital invested of \$3,303,100; give employment to 1,280 males and 16 females; and produce \$7,638,400 of manufactured goods. Of the firms engaged in the white lead industry in 1890, there is only one remaining in active business today,—T. H. Nevins & Company. The National Lead and Oil Company of Pennsylvania, with general offices and salesrooms in Pittsburgh, is the important factor in the white lead industry of the present day. They are corrodors and manufacturers of white and red lead, dry and in oil; Getharge orange mineral, oxides for glass, rubber makers, potters, enamellers and other trades having the control of plants of great capacity, which gives them a commanding position in the industry.

Closely following the iron business, it was but natural with the abundant forests west of the Allegheny Mountains that lumber should play an important part in the industries of the city. It is, however, curious that it should have originated with the famous Seneca Chief Cornplanter who had a large stock of sawed lumber on hand and was approached in 1795 by Pittsburgh parties to sell the same. This marked the beginning of the Allegheny river lumber trade. Pittsburgh in 1807 had four lumber yards, and in 1812 seven million feet of lumber was brought down the Allegheny river. This increased in five years to 28,350,000 feet, of the value of \$300,000. There were in 1876 engaged in the lumber trade in the twin cities, thirty-five firms whose yards covered an area of sixty-three acres; whose sales approximated \$1,370,000. The cooperage business was also extensive, aggregating in sales three-fourths of a million dollars, while the twenty-nine carriage and wagon works produced \$500,000 annually. We find in the census report of 1890 that the lumber industries had not kept pace with the increase of other industries in Pittsburgh, the capital invested at that time in the lumber interests being only \$1,348,496, while iron and steel and its kindred industries amounted to nearly \$60,000,000. At the present time, there are engaged in Allegheny county one hundred and twenty-five establishments in lumber and its remanufacture, the large majority of which are located in Pittsburgh. These industries employ 2,274 wage-earners and produce \$14,755,300 of merchandise on a capital of \$7,804,200. They manufacture barrels, kegs, tanks, billiard tables, cigar boxes, packing boxes, carriages, wagons and their parts, picture frames, furniture, models and patterns, planing mill products of which there were fifty-one establishments that produced over one-half of the aggregate products, refrigerators and ice-boxes, washing-machines and wringers. While Pittsburgh has her quota of lumber-yards, the production dealt with is not of domestic manufacture but is brought from the lumber districts of the South and West.

The establishment of tanneries to utilize the bark of the forest trees

followed the introduction of lumbering. There were in 1825 nine tanneries in Pittsburgh which employed fifty-two hands and produced \$65,000 worth of leather. This product was used by eight saddleries, that owned by John Little being the largest, where employment was given to forty-seven men. Hanson & Brice and Plummer & Company were likewise large establishments. The total production of eight saddleries, employing 104 hands, was \$85,000. The forty-five boot and shoemakers at this time employed 225 hands and manufactured \$95,000 worth of goods. The tanning industry, which in 1895 employed 1,000 men, annually consumed 25,000 to 30,000 cords of bark, requiring from 2,500 to 3,000 freight cars for shipping their product annually, is now confined to the William Flaceus Oak Leather Company and Phoenix Tannery, on the North Side.

One of the largest paper mills in the western part of Pennsylvania in 1825 was the Anchor Steam Paper Mill owned and conducted by Henry Holdship, on what was then Ross and Brackenridge streets. The mill contained six vats, employed 88 hands, and in addition to other goods produced forty reams of fine paper weekly. Situated in what was then Northern Liberties was the Pittsburgh Steam Paper Mill, containing three vats and operated by Joseph Patterson & Company. This industry did not prove a success, as in 1839 there was only one paper mill in existence, with a product of \$25,000 annually.

As early as 1817 there were four tobaccoists, employing twenty-three hands, with an annual production of \$21,000. This was in the days of the famous Conestoga freight wagons which passed in great numbers through Pittsburgh bound for the West. The drivers of these wagons being unable to obtain cigars, were in the habit of rolling tobacco leaves in the simplest manner for a smoke. They became known as "stogies," an abbreviation of Conestoga, which was further abbreviated to "toby." The stogie has made Pittsburgh's name famous in the tobacco world. The industry increased in the next decade so that 4,000,000 cigars were made, also 4,833 kegs of tobacco, with a valuation of \$53,000, employing 140 cigar makers. In 1895 there was \$1,500,000 invested capital in the industry, which in 1920 had almost doubled. There were twenty establishments manufacturing cheroots and stogies, seventeen cigars, and only one, smoking tobacco. The average number of employees engaged in manufacturing was 1,607, while the production was \$3,213,700.

Amongst the many lost industries of Pittsburgh is oil-refining. The discovery of oil in Western Pennsylvania gave prominence to the city, and aside from the refineries which sprung up, a great deal of wealth that the discovery of oil produced was ultimately invested in Pittsburgh. This was an important factor in the rapid increase of the city in population and wealth between 1860 and 1870. Refining oil at this period was an extensive business. The seven refineries in 1860 increased in 1867 to fifty-seven, which was the highest point gained by Pittsburgh as an oil-refining center. The introduction of pipe lines and the formation of the Standard Oil Company caused Cleveland, Ohio, to

become the center of the refining trade. Many of those engaged in the industry removed to that city, so that in 1876 there were but twenty-nine refineries in Pittsburgh; in the next few years, all took their departure to that city, and in a way this was a heavy loss to Pittsburgh; though it carried with it a nauseating and bad smelling material, there was, however, a profit in the enterprise.

Of the important manufacturing industries outside of steel, iron, glass, electric and their kindred associations, we append a short notice of those that are unique in their character and stand without rivals in their individual line, their products being known throughout the world.

It was in 1860 that Thomas M. Armstrong associated himself with John D. Glass to engage in the manufacture of corks in a small factory in Pittsburgh, where the articles were made by hand. The death of Mr. Glass caused William L. Standish and Robert D., a brother of Mr. Armstrong, to become identified with the firm, which was incorporated in 1891 as Armstrong Brothers & Company, and four years later a greater corporation was effected as the Armstrong Cork Company. The little hand factory had grown to become one of the largest cork manufacturing establishments in the world. The capital stock was increased in December, 1910, from \$4,500,000 to \$8,000,000, which was further increased in July, 1917, to \$15,000,000. The corporation is incorporated under the laws of the State of Pennsylvania; its main works are located on 24th street and the Allegheny Valley railroad, with auxiliary plants at Lancaster, Oakdale, Beaver Falls, Pennsylvania; and Camden, New Jersey. Cork specialties of every variety, life preservers, insulation pipe covering, linoleum, etc., are manufactured. Depots are maintained in Spain and Portugal for the collecting and preparing of cork bark. The American Cork and Insulation Company, located at the works in Pittsburgh, is controlled by the Armstrong Cork Company. The executive officers of the corporation are C. Dudley Armstrong, president; William E. Evans, vice-president, and William H. Pfohl, secretary and treasurer.

The genesis of the Phillips Mill and Supply Company was in 1889, when John Phillips and his nephew, John M. Phillips, purchased the mine supply department of the Oliver Iron and Steel Company. A copartnership was established and in 1900, the firm was reorganized and incorporated with its present title; John M. Phillips was made president of the corporation. From a humble beginning, the plant now occupies a large area in the South Side district, and their products have a ready market throughout the world. The president of the company has invented many labor saving coal handling devices which are manufactured by the company, amongst them the Phillips Automatic Crossover Dump Car. The plant is situated on Jane street, and all varieties of mine and coke equipment are manufactured, including mine cars and trucks, mine car wheels, lorry wagons, Phillips automatic car dumps, car stops and screen equipment. The officers of the corporation are John M. Phillips, president; Watson P. Phillips, Robert F. Phillips, vice-presidents; and John E. Roth, treasurer.

John Dickson Matthews, founder of the incorporated company now

known as James H. Matthews Company, was by birth an Englishman who learned the trade of steel die-sinking in his native country, where he was employed as a die-cutter and gunsmith. Mr. Matthews located in Pittsburgh in 1840, and for ten years worked at his trade, when he entered business for himself as a steel and die-cutter on Smithfield street, near Sixth street. Upon his death in 1877, the firm name was changed to John D. Matthews & Sons. The business was conducted thereafter in the firm name of Matthews & Sons until 1892, when it was incorporated under its present title, the incorporators being James H. Matthews, William Jenkins and Thomas O. Matthews. Since the incorporation of the company, there has been a steady increase in the business, and it has become one of the largest if not the largest manufacturers of marking devices in the country. The present location of the corporation on Forbes street, a three-story brick edifice, was built for their sole occupancy. The principal products of this unique manufacturing plant are rubber stamps, stencils, bronze signs, steel stamps, metal checks, memorial tablets, seals, marking machines, badges, brass dies, etc. James H. Matthews is president, and William Jenkins, secretary and treasurer.

Bread is the staff of life. This is fully illustrated in Pittsburgh by the Famous Biscuit Company, whose slogan is "One Hundred and Fifty Good Things to Eat." The Famous Biscuit Company is the outgrowth of The Thomas R. Mackey Baking Company who received a charter June 5, 1905. This charter was transferred April 25, 1911, to the present corporation, with an authorized capital of \$474,000. Quality has always been the first consideration, and the result has been a steady growth and a still increasing trade. The plant of the company is located on Forbes street, a fireproof six-story and basement brick building. Another bakery is maintained on the South Side, and branches are operated at Altoona, Johnstown and New Brighton in Pennsylvania; Youngstown and Akron in Ohio, Huntingdon and Fairmont in West Virginia; and Cumberland in Maryland. All kinds of crackers, cake, biscuits, and sugar wafers are manufactured, among the well known brands are the Delekta, Onenta, and Bon Ton. The president of the corporation is John A. Simeral.

In the year 1866, Smith & Porter rented a single room on 28th street; the two members of the firm and an apprentice constituted the entire working force. A factory was soon built on Bingham street, where stationary engines were made. On March 4, 1867, the firm received their first contract for a locomotive. The firm's name was changed in 1870 to Porter, Bell & Company; in the same year a new manufacturing site was selected some distance from the old one, on the line of the Allegheny Valley railroad. On the death of Mr. Bell the company was again reorganized; incorporation was effected, under the laws of Pennsylvania with a capital stock of \$1,000,000, May 13, 1899, and the H. K. Porter Company came into existence. The first compressed air mine locomotive was built in 1891, and from that time the company has had a vigorous growth. The capacity of the plant was increased to three

hundred locomotives annually. Locomotives were constructed in sections and exported in that shape to all parts of the world. The executive officials are H. Kirke Porter, president; W. E. Martin, treasurer.

On Pennsylvania avenue the John A. Brashear Company, Limited, manufactures the most delicate astronomical products which are used in all the well-equipped observatories in the world.

The National Car Wheel Company was incorporated under the laws of the State of New York, September 3, 1903, and was a consolidation of the Maher Wheel and Foundry Company, Cayuta Wheel and Foundry Company, Keystone Car Wheel Company, and Rochester Car Wheel Company. Of the authorized common stock, \$2,500,000, one-half has been issued. There was also accumulative preferred stock of \$1,500,000 authorized, of which amount about one-third has been issued. There is a bonded debt of \$600,000, given for a period of twenty years, which becomes due September 1, 1923. The company operates the Pennsylvania Casting and Machine Works on Preble avenue, manufacturing wheels and axles for mining locomotives; lorry, ingot, ladle and standard freight cars are manufactured. The annual output is 100,000 tons. The president and secretary of the corporation, respectively, are James D. Rhodes and George P. Rhodes.

The Pittsburgh Clay Pot Company was incorporated under the laws of Pennsylvania, September 18, 1889, with a capital stock of \$480,000. The plant is located on Riverside street, North Side. The products consist of manufacturers' tank blocks and pots for glass work, face brick, vitrified paving bricks and other clay products. The officers of the corporation are H. R. Beagle, president; Robert T. Wilson, vice-president; and T. E. Wilson, secretary and treasurer. The principal shovel manufacturers in the city are the Pittsburgh Shovel Works, organized in 1905, and Hubbard & Company, with a capital stock of \$500,000. The Duff Manufacturing Company incorporated under the laws of Pennsylvania with a capital stock of \$600,000, is located on Preble avenue, North Side. Their specialty is hydraulic jacks and trench braces, though every conceivable style of lifting jacks are manufactured. The president of the corporation is J. R. McGinley; vice-president, Thomas H. McGinley; secretary, Frank O. Graham.

Among the enterprising industries of Pittsburgh is the Keystone Bronze Company on 29th street and the Allegheny Valley railroad. The works were established in 1887. Copper, bronze and aluminum castings for blast, and open-hearth furnaces, tin and steel works, hoop rod and plate mills, machinery and shipbuilders and every description of copper, manganese bronze castings, are produced. The officers of the company are Mont Murray, president; L. L. Knox, vice-president; William H. Schoen, secretary. Another industry that plays an important part in the business affairs of the city, of which Mr. Schoen is chairman of the executive committee, is the Pittsburgh Knife and Forge Company, with a plant on the corner of Ridge and Chateau avenues, North Side. Their specialty is automobiles, railroad cars and mine forging, also solid

steel shear knives are made. The associate officers with Mr. Schoen are P. A. McBride, president; Edwin Hodge, Jr., vice-president; A. R. Bassett, treasurer; J. G. Bassett, secretary.

The Standard Sanitary Manufacturing Company, with general offices in Pittsburgh, was incorporated under the laws of the State of New Jersey, December 27, 1899; it was the consolidation of the Ahrens & Ott Manufacturing Company of Louisville, Kentucky; Cribben & Saxton Company of Chicago, Illinois; Burch & Sherwood Manufacturing Company of Detroit, Michigan; Dawes & Myles of New Brighton, Pennsylvania; Pennsylvania Bath Tub Company of Ellwood City, Pennsylvania; Sanitary Manufacturing and Enameling Company of Muncie, Indiana; Standard Manufacturing Company of Pittsburgh, Pennsylvania; Victor Manufacturing Company of Allequeppa, Pennsylvania; and the J. J. Vollrath Manufacturing Company of Sheboygan, Wisconsin. These firms represented about eighty per cent of the production of plumber's enameled iron ware in the United States. The authorized capital stock of the corporation was \$2,500,000, and a non-cumulative preferred stock of \$2,500,000. The Pittsburgh's works, covering ten acres, are located on the North Side, and employment is given to about one thousand employees. Standard plumbing fixtures and supplies, tools for water, gas and oil for plumbers, steam fitters, enameled ironware, besides other plumber's supplies, are the articles manufactured. The common stock in 1912 was increased to \$4,000,000, and the preferred to \$6,000,000. In January, 1917, the common stock was made \$12,000,000, and the preferred \$8,000,000. During the World War in December, 1917, a contract for munitions was secured from the United States Government, and in the first six months of the following year \$1,000,000 for machinery and equipment was spent on the Pittsburgh plant. The total amount of munitions produced was \$2,000,000, the unfilled contracts being surrendered to the government. The president of the corporation is Theo. Ahrens. The Standard Sanitary Manufacturing Company, limited, with a capital of \$1,000,000, was incorporated in Canada in 1911, absorbing Somerville Company, Limited, Lobatt Manufacturing Company and the General Brass Works all of Toronto. The parent company in December, 1913, purchased the Great Western Pottery Company of Kokomo, Indiana, and Tiffin, Ohio.

The founder of the James Rees & Sons Company was Captain James Rees, of Welsh descent. He arrived in this country in 1827, his parents settling in a small town near Wheeling, West Virginia, but soon afterwards removed to Pittsburgh. Young Rees first worked in the coal mines. His natural inclinations, however, led him to mechanical pursuits, and here among steamboat engines his latent knowledge and scientific conception of the operation of steam in connection with machinery developed rapidly. He thoroughly acquired the trade and in 1843, while in charge of the shop of Rowe & Davis, he superintended the building of the "Michigan," the first revenue cutter constructed by the government for lake service. Captain Rees in 1855 commenced the construction of river steamboats, light draft vessels and marine boilers.

He was the first to inaugurate ten hours for a day's work in Pittsburgh. Before this, employees worked any old time from twelve to sixteen hours. The boats manufactured were fully equipped and set up in the plant, then taken apart, crated and shipped. Captain Rees was interested not only in the Rees & Sons as boiler makers, but also in the James Rees Duquesne Engine Works; these interests were consolidated July 1, 1895, and the James Rees & Sons Company was incorporated. The business has expanded, and though in an early day they built only steamboats for South American governments and Russia, their boats now ply the rivers of three continents. They were the first to construct in the United States a steel plate steamboat. The executive officers of the corporation are Thomas M. Rees, president; William M. Rees, treasurer; David A. Rees, secretary and treasurer.

The landscape adjacent to the railroads throughout the country has been defaced by the sign "57 Varieties," which has caused the publicity of the merchandise thus advertised into every hamlet of the land. Allegheny City, now the North Side of Pittsburgh, is the home of the "57 Varieties." The founder, Henry John Heinz, born in Pittsburgh, of German descent, early in life became engaged in market gardening, which with the usual thrift of his forebears he made profitable. He became in 1869 interested in the pickling business at Sharpsburg, from which the present industry is an outgrowth. In a room in a small two-story building, with two woman helpers and L. C. Noble as a partner, the business name being Heinz & Noble, the first foundation was laid that ultimately was to reach around the world. In 1870, E. J. Noble, a brother of L. C. Noble, was admitted to the firm. The first product prepared for the market, horse-radish, was cultivated and grafted and sold in glass; the following year, celery sauce and pickles were added, both in glass and wood. These became the leading products of the firm. Larger quarters were soon demanded, and three rooms in a small building were acquired to take care of the increasing business. A removal was made in 1872 to Pittsburgh, where a large four-story building was occupied on Second avenue, and in 1875 the Nobles retired from the firm. The business was reorganized and Frederick Heinz, a cousin, and John A. Heinz, a brother of the founder, were admitted as partners, the latter retiring in 1888. The increasing demand for the productions required more room, and an adjoining building was rented, also a vinegar factory on the present site. The growth of the business in 1890 necessitated larger manufacturing facilities, and adjoining the vinegar factory on the North Side a site was purchased that was originally thirty-six city lots, extending from the Allegheny river to tracks of the Pennsylvania railroad, between Heinz and Pindam streets. The first buildings were erected on the plant in 1890, and building after building has been added until today the main plant covers one hundred and sixty city lots with thirty-two massive brick buildings with a floor space of over forty-five acres, the largest establishment of its kind in the world. The Heinz industries use the product of 50,000 acres, employ 4,000 people in the manufacture and distribution of these products, has seventeen branch

factories in the United States, one in Canada, England and Spain. Distribution of their products through warehouses and agencies is made in the principal cities of the United States, Great Britain, Continental Europe, Asia, Africa and Australia, thus exercising an active and aggressive influence in the commerce of the civilized globe. Outside of Pittsburgh there are ninety-six salting stations; there are also the Heinz Can Company, the box and tank factory, the glass factory at Sharpsburg, with a capacity of 18,000,000 bottles annually, also the Heinz printing plant, all affiliated industries.

The "Home of the 57" has always maintained an open-door policy; visitors are always welcome, and every attention is bestowed upon them; details are illustrated in the preparation of the products and all questions answered. The welfare features for the employees are given special attention, substantial food is served at cost, a fully equipped gymnasium, a natatorium and an auditorium are established, besides a library, and musical, dramatic entertainments, and lectures are given. An emergency hospital is maintained, also a resident physician is employed who visits employees at their homes when ill. The Pittsburgh branch of the Ford Motor Company is located near the Shadyside station of the Pennsylvania railroad at Baum boulevard and Morewood avenue. The building is of modern design, eight stories in height, containing over 180,000 square feet. It is an assembling plant and service station and is the sixth largest in the chain of Ford Assembling Plants with a capacity for building one hundred automobiles a day which are distributed throughout Pennsylvania, Ohio, West Virginia and Maryland, giving employment to approximately three hundred and fifty people.

The "Home of Sweets" in Pittsburgh is Reymer & Brothers, incorporated, established in 1846, by Philip Reymer. The firm in 1852 became Reymer & Anderson, and in 1861 Reymer & Brothers, who were wholesalers of fruit and confectionery. The founder of the firm was born in Pittsburgh, July 27, 1824, and to the successful management of the business his life was devoted. Though the name is still retained, the present corporation, with its factory on the corner of Forbes and Pride streets and retail stores in the heart of the city and at East Liberty, has the following executive officers: Benjamin Dangerfield, president; and Benjamin Dangerfield, Jr., secretary and treasurer.



PART THREE



FIRST CARNEGIE LIBRARY IN SCHENLEY PARK



THE CARNEGIE LIBRARY AND INSTITUTE, SCHENLEY PARK

CHAPTER I.

Greater Pittsburgh.

The "Greater Pittsburgh" is still in a mirage, visible at times for a moment, but both illusive and elusive to those of its hopeful friends who desire its accomplishment and are tireless in the work of bringing it about. To these it is a vexatious problem, the more so because the material for the creation of the fourth or fifth city in North America is visible and tangible in the great plexus of third-class cities, boroughs, towns, townships and villages lying all around Pittsburgh, but, through the unwillingness of those residents of these elements, the plan of consolidation is annually defeated. In most of the instances the line of demarcation between city and suburb is merely imaginary, while in others the suburbs lie all around those that impinge upon their various boundaries. Residents and inhabitants of these environing towns for the most part, have business and employment within the city and use their homes rather as dormitories than as residences. It is true that local pride in some of these splendid suburbs has given them nearly everything of urban convenience and comfort, even to schools and parks approximating city contemplation, but they, in present circumstances, yield nothing but residential requisites in small measure and serve to embargo metropolitan expansion and to "pervert the finger of destiny," at least to delay destiny, while their people are parasites on the city and obstacles to its natural growth.

At this time Pittsburgh's Chamber of Commerce, a body of more than six thousand members, is casting about, in virtue of its city-county composition, to come upon the best plan for a general merger of those municipal elements that are desirable for the accomplishment of the plan for the "Greater Pittsburgh," but this plan is still indefinite and those engaged in its organization seem to have no concrete ideas of what it should be.

The city of Allegheny was voted into Pittsburgh at a joint election by voters of both Pittsburgh and Allegheny in 1909 under an act of the Pennsylvania Legislature authorizing this election. The measure was not primarily popular with the voters of the city of Allegheny but, once the vote was announced and the consolidation accomplished, the citizens of the new greater city have acted in fine unison in promoting municipal solidarity. The bond of union has been annually strengthened until there are no sectional differences and the measure itself has proven beneficent in its every meaning.

Repeated efforts have been made to obtain authority for "forcible annexation" by the legislators from the city of Pittsburgh from the Legislature of Pennsylvania, but never, excepting in the instance of the city of Allegheny, has any effort been successful. Several years ago the Allegheny County League of Boroughs and Townships was organized

to defeat any measure tending to legislative authority for "forcible annexation," and none such has been enacted. This League has been sleepless in its attention to every scheme that has originated in the Pennsylvania Legislature to confer the authority for forcible or any other action, to deprive the boroughs of the right of action in the matter of local initiative relative to annexation, and in this particular has had the encouragement of rural legislators at every session of the Legislature; indeed, there appears to be little sympathy with such legislation outside of large municipal membership.

A section in the new constitution that will be offered to the people of Pennsylvania within a few years for their endorsement provides that no city or borough shall be created nor shall the boundaries thereof be changed, except by the consent of at least a majority of such electors resident within the proposed added areas as shall vote on the proposed changes at an election which shall be held as may be provided by law, nor shall any change in boundaries be made which shall place outside the existing limits of a city or borough any part thereof without the consent of at least a majority of such electors resident within the proposed excluded area, as shall vote. If this section goes into the constitution, it is very certain that no annexations, unless by consent of the great minority of voters of the boroughs and townships, will be made in the near future of Pittsburgh. As it is at present, a compulsory vote, as in the instance of the annexation of Allegheny City, may be resorted to, or a petition from the residents of a borough or township desiring admission may accomplish such annexation, but under the new order only the petition will effect annexation.

Another plan for giving Pittsburgh the numerical value that should be hers, in view of the census of 1920, is to create a Metropolitan District that will include for the purpose of creating within the territorial limits of Allegheny county and conterminous therewith such district. This district shall have the power to own, control and operate public utilities within these territorial limits and may also control, operate and administer matters of police, fire, water and sewerage in said metropolitan district. It is proposed to have the administration of affairs of this metropolitan district in the hands of three commissioners who shall be elected at a general election and shall continue in office nine years, their first terms to continue three, six and nine years, respectively, to be determined by lot, their successors to be elected by similar election. These commissioners will have power to levy taxes upon all property taxable for city, county, borough or township purposes, and may incur indebtedness not exceeding ten per cent. upon the assessed value of the taxable property therein, if said indebtedness shall have been consented to a public election in such manner provided by law.

Allegheny county contains the second-class city of Pittsburgh; the third-class cities of McKeesport, Duquesne and Clairton; fifty-three townships, of which twenty-two are first-class and sixty-one boroughs, —the aggregate population of which is nearly a million and a quarter of

people. The area of the county is comparatively small and, because of many intra-county street car lines, fine roads and other up-to-date modernities, the general solidarity is splendid, while improvements of both county and local character make it almost a concrete population, subject of course to various governmental lines nearly all of which are at variance with metropolitan meaning.

Pittsburgh is the oldest city, and almost the oldest settlement west of the Allegheny Mountains, and has by sheer exertion and by her own initiative, intelligence and industry, forced her way to the front in the entire manufacturing world. In emulation of her example and in imitation of her methods, other western cities have come within visible distance of Pittsburgh in variety and extent of manufactories and have shown greater numerical strength in census figures by methods that Pittsburgh cannot employ because her tributary district is less complaisant than the tributary districts of her competing cities. All of these cities are subject to mutable populations, Pittsburgh particularly, consequent upon fluctuations in demands upon their factories for labor to make the wares they produce. Results of the World War have been adverse to both business and census showings in all manufacturing centers throughout the United States and the great central cities and communities of these states have dwindled very much since the taking of the census of 1920. Pittsburgh has lost fewer of her aggregate of population than others, but all have lost very largely of their workingmen, many of whom have returned to Europe to try conclusions in new states that have been formed since the war. If the metropolitanizing process is accomplished, the result will give to Pennsylvania the third and fourth cities in the Union in numerical importance, Philadelphia and Pittsburgh, and the first in manufacturing rank. If the boroughs immediately contiguous to the city, excepting the Sewickley valley or McKeesport, were annexed, the population of Pittsburgh would at once be in excess of that of the cities of Cleveland, Cincinnati, Buffalo, Baltimore and St. Louis; and if the other county townships and villages, inclusive of the Sewickley valley and McKeesport, were included, the population would be larger than that of Detroit. Pittsburgh's density of population is 14,346 per square mile, much greater than that of any one of the cities named. The density of Pittsburgh's population is two thousand per square mile greater than that of Los Angeles, with a population of 575,480, which covers 351 square miles, or 37 square miles greater than the whole of Greater New York. The population of the latter is 1,069 per square mile, while that of Allegheny county is 1,509, and if the entire county of Allegheny were included in the city of Pittsburgh, the density of population would still be nearly five hundred per square mile greater than that of Los Angeles. The area of Cleveland is fifteen and a half square miles greater than that of Pittsburgh; Detroit, thirty-six miles greater; that of Cincinnati, thirty-one miles greater; St. Louis, twenty and a half; Baltimore ten miles, and Buffalo one mile greater than that of Pittsburgh. Pittsburgh's density comes of the fact that the factory workers and their

families congest the city while the owners and employees of dry goods, department and other stores and nearly all of the business men and their employees reside in the suburbs.

A powerful incentive to general annexation will come of the circumstance that suburban and borough taxation has become so great and onerous that residents will desire it in order to enjoy the larger educational, immunity from danger from fire, and other urban advantages, that inhere in city life. Many of the county boroughs are fairly borne down by high taxes that are yearly increasing, and dissatisfaction will very soon determine the superiority of city provisions for better government.

Pittsburgh has paid much more attention to the expansion of her manufacturing area than it has to the extension of her municipal lines and the merging of built-up sections adjoining, indeed impinging upon present boundaries almost painfully. Other competing cities such as Detroit, Cleveland, Toledo, Cincinnati and Buffalo have developed their cities concurrently with their other resources, with the result that they have distinctive features in each not in any sense peculiar to Pittsburgh. Many abutting boroughs, one third-class city, and several desirable villages, are in fine shape for municipal absorption were the ways and means therefor present. Allegheny county has a population of about 1,350,000, of which nearly a million should be at once within the city boundaries. There have been mutual repugnances to mergers, repugnances that have arisen from causes, almost all artificial, and easily overcome, but initiative has been lacking in each case and present prospects are not promising for years to come for the consummation.

The metropolitan district, so-called, hitherto has included certain sections of Allegheny, Westmoreland and Washington counties, those sections which are contiguous to each other, the aggregate being fewer than five hundred square miles. The Chamber of Commerce of Pittsburgh has in view the territorial increase of the metropolitan district to include districts, at present not identified, in Western Pennsylvania, Eastern Ohio and upper-West Virginia, an area subsidiary to and manufacturingly, commercially and financially identical with the city itself. Detroit has a present square mileage of 91, with a census report of 993,793; Cleveland has a municipal content of 57 square miles and a population of 796,836; if Pittsburgh would include relatively as much territory within city limits as Cleveland, her population would be about 865,000. If her inclusion were as great as that of Detroit, Pittsburgh's population would be 1,100,000 approximately.

These facts give measureable ideas of the indifference of those most at interest to the prominence that should be Pittsburgh's were its manifest destiny accomplished in the same spirit that has been shown by residents of two really inferior cities. Legislation adequate to the purpose has been lacking; indeed, it is alleged that constitutional inhibitions will have to be remedied ere the city in any of its elements will be in position to resort to semi-compulsory proceedings to bring about the consoli-

dation of villages, boroughs, townships and third-class cities to well-nigh double its present population. In all other relations, Pittsburgh is in capital condition to take care of itself. For more than fifty years it has had within itself the financial means to do that which was indicated, and in both commercial and manufacturing matters it has dominated affairs for an equal length of time. As matters stand, however, the fact that Pittsburgh increased only 10.2% in the decade of 1910-20 is explainable in the circumstance that, because of its cosmopolitanism, much of its population was either drawn into the service in the World War or was drafted into the armies of Europe when nearly every country of that section of the Eastern Continent sent its men into the war. These men went home under international agreement, thousands of them from the workshops of the three valleys wherein the mills of this district are in operation. Gradually these, such as have survived, together with others, are returning in such numbers as to defy effort to adequately house them. This time they are becoming citizens as rapidly as prescription will permit, having brought their families with them for the purpose of remaining.

Pittsburgh, as a matter of fact, has always been the "Greater Pittsburgh" because in its peculiar "sphere and season" it has excelled and exceeded all other competitors, first in America, and eventually in the world. While it is true that at the start the settlers and founders had not the concept, indeed, not the idea of its destiny, coming here as they did in detached groups intent upon settlement and development by ordinary processes, they very soon found that they must have recourse to other means to do these things than those they were trying out; in other words, they found they could not live by "bread alone." Fortunately, even among the earliest of the comers were artisans of nearly every description, in addition to the larger number of agriculturalists who were eager to take advantage of the fine prospects that the virgin soil held out to them in every valley and on every hillside. Wheat, corn, oats, barley, vegetables in great profusion, were grown all over, but in most cases these all had to be eaten at home or thrown to the animals for consumption, as there was no demand and sale for them. Wheat and rye reduced to whiskey became currency both on this side and on the eastern slopes of the Allegheny Mountains, but in the former instance transportation was an expensive, in the winter, an almost prohibitive, factor. The excellence of this "Monongahela" whiskey attracted national attention at once, and this subsisted until "Prohibition" interdicted its further production. However, it became the first product of the trans-Allegheny colony that made a national impression, and in this reputation it sufficed to give to its makers both cash and commodities for many years. So essential did it become to the existence of those early settlers that they defied the government and stood ready to fight for their "rights" until they realized the futility of effort to resist the right of government to enact and enforce legislation and again became the best of citizens as well as the most loyal.

Iron and glass in many varieties thereafter became the staples as well

as the stables of the urban citizens who began their manufacture after Allegheny county had been erected and Pittsburgh had become a borough. The discovery of iron ore in quantities in Fayette county during the ten years before 1790 stirred the residents at the foot of the mountains both in general interest and to personal activity, and at once the possibilities of their resources were made plain to them. Fayette county soon swarmed with iron furnaces and their accessories of rolling mills, blooming furnaces, heating furnaces and other mills and furnaces came speedily thereafter. George Anshutz, an Alsatian, was the first Pittsburgher to erect an iron furnace here in 1792, and later in Westmoreland county, Joseph McClurg built an iron foundry in 1805 and other iron producing mills came in natural sequences. James O'Hara and Isaac Craig were the first glass manufacturers, building a factory and producing glass in 1797. A cotton factory came in 1804; white or flint glass production in 1808-09; steamboat building in 1811; banks in 1804-10; nails, at Brownsville in 1795; and other basics soon afterwards. Steel, all over the world, had been variously made, but it came into Pittsburgh's scope much later, and it was not until Andrew Carnegie took it in hand that it came into its own properly, the world over.

Pittsburgh thus began its career as a "Greater Pittsburgh" when it elected to manufacture iron and glass as specialties, not ignoring other related products of each. Wood and coal were the first fuels employed, later coke came into the equation and in the eighties natural gas was introduced and has been for forty years the best and, in many respects, the cheapest of the fuels for melting, heating and treating iron, steel and glass thus far used, although electrical energy is rapidly asserting its usefulness in every particular of production. The lack of transportation for years arrested the full development of Pittsburgh's producing capacity, the wagons of all kinds were the early means of sending finished products to the East and the various kinds of river craft delivering them to Southern and Western points. It was not until 1829 that the canal boats began to make the transportation trips eastwardly more frequent occurrences and relatively cheaper than the freight problem began to near solution. The fifties brought the railroads here, and succeeding years have added to the conveniences, although complaint that discriminations against Pittsburgh manufacturers have never subsided on the part of local manufacturers.

The effort to gain and maintain manufacturing supremacy, however, came from this very disposition to hobble those most affected by the inequity, because the manufacturers at every manifestation of this disposition redoubled their efforts to produce more and better goods than ever, thereby attracting country-wide attention in the first instance, that is, before they became exporters, and in the second to the world at large to the quality of the products they were offering for world consumption. Quality made appeal wherever and whenever made, and price powerfully reinforced every appeal until in the last twenty years of the nineteenth century American steel was crowned and proclaimed over England which had until that time worn this crown.

The general business of the Pittsburgh district kept pace with that of its specialties, its financial and commercial showings for a half century combining to rank it among the first half-dozen of the largest cities in the United States. Much of the money required to give incipient impulse and afterwards permanency to local enterprises is obtained in the financial institutions of Pittsburgh, its banks and trust companies possessing almost unlimited resources. Team work was responsible for pioneer successes, and this has obtained throughout the decades, the effect being to give city and manufacturing establishments fine reputations throughout the world.

The "Greater Pittsburgh" was originally more a geographical expression than a term of distinction, it having been given to describe and define the area of a city that was to be created by a consolidation of several large boroughs, the city of Allegheny and such tributary territory as it was physically obvious should be included within the city lines. Political and local dissatisfaction with the entirety of this plan has served to defeat its accomplishment until the present time. While the city of Allegheny has been annexed and other boroughs and built-up sections taken in, there yet remain the boroughs of Braddock, Wilksburg, Swissvale, Rankin, Edgeworth, Verona, Oakmont, the Westinghouse boroughs, East McKeesport, North Braddock, Versailles and other boroughs and thickly populated townships between the rivers, east of the city; West Homestead, Homestead, Hays, New Homestead, Duquesne, Dravosburg, Clairton, Chalfont, Forest Hills, Ardmore, East Pittsburgh, Turtle Creek, Pitcairn, and in the South Hills, Knoxville, St. Clair, Mt. Oliver, Carrick, Overbrook, Castle Shannon, Mt. Lebanon, Mt. Lebanon township, Dormont, Scott township, Banksville, Union township, Crafton, Ingram, Rosslyn Heights, Carnegie, Heidelberg and the towns in the Ohio valley between Pittsburgh and the Beaver county line on both sides of the Ohio river. There are also the river towns between Pittsburgh and the Indiana-Butler-Armstrong counties line, all large and so closely connected as to form almost one continuous, unbroken group of towns and villages, all of these, as well as the others being merely dormitories for their male and very many female residents who find employment in the city of Pittsburgh. Many of these boroughs have of their own initiatives placed themselves in fine relation with the plan of consolidation by making sweep-inclusive improvements in almost everything the metropolitan scheme involves.

Dormont, Carrick and Carnegie as well as others have paved streets, sewers of the latest methods of construction, school houses new and fine and every other city adjunct that the largest cities in the country possess. It is true that they have issued bonds for this metropolitanization work which they have done and these bonds will come into the city, when annexation comes, as parts of the obligation the city will have to assume, but the compensation is automatic in the fact that the work, that otherwise would be imperative upon the city to do in order to modernize these boroughs, has been done and done in a manner that will require only brief time to connect with city streets, sewer system and mains.

The political aspect of the situation militates the most injuriously against its consummation. Burgesses, tax collectors, constables, petty policemen, all drawing small salaries, have exerted themselves to prevent consolidation, alleging, in some instances, that they will be paupers in the event. In others, they are able to urge the individuality of the boroughs as an argument against merger, because, if the merger occurs, they will all be submerged. While, then, Cleveland, Detroit, and other much less prominent and pretentious cities, also less populous, have been supported and sustained by the loyalty of their suburbs, Pittsburgh's environs, although absolutely dependent upon the city, have hesitated and procrastinated until the others have passed her in the position that is numerically, commercially and financially hers.

The Industrial Commission, whose inspiration was F. F. Nicola, who has built up and beautified more of the very heart of Pittsburgh as no other resident and citizen ever has done, aided by many other enterprising citizens, exerted itself for years most successfully to not only extend the area of the city, but at the same time to bring into this area hundreds of new factories, mills and workshops and did succeed in inducing a great many manufacturers to either build new factories or to tear down and reërect their old ones within the radius of this district. The World War activities not only distracted attention from the activities of the gentlemen in charge of this work, but caused them to cease altogether.

If the relation of increase of output of production had been maintained in that of population from the years 1914 to 1919 in Pittsburgh and its suburban vicinity, the figures would have appeared as follows:

<i>1918—County.</i>	<i>Capital Invested.</i>	<i>Value of Product.</i>
Allegheny	\$884,659,700	\$2,305,065,800
Philadelphia	1,824,000,000	1,895,000,000

Pittsburgh, and the rest of Allegheny county, have a population of about a million and a quarter, Philadelphia a half million more. Pittsburgh and Allegheny county compare with other cities as follows:

Federal census of manufactures for the following metropolitan districts of other cities:

<i>City.</i>	<i>Value of Product.</i>
Cincinnati (Metropolitan District)	\$287,816,101
Cleveland (Metropolitan District)	363,664,188
St. Louis (Metropolitan District).....	493,219,710
Chicago (Metropolitan District).....	1,734,736,737
Pittsburgh (Allegheny County).....	2,305,065,800

In no instance is the metropolitan district of the cities named smaller than that of Pittsburgh, in most cases it is much larger than Allegheny county. Metropolitan Cincinnati includes large sections of Hamilton, Hamilton county, Ohio, and portions of Campbell and Kenton counties, Kentucky. Metropolitan St. Louis laps over into Illinois and engulfs Madison and St. Clair counties, while Metropolitan Chicago reaches around the southern shore of Lake Michigan into Southern Indiana. The value of the manufactured product of Allegheny county (the Pittsburgh metropolitan district) in 1918, was greater than that of the manufac-

tured production in the metropolitan districts of Cleveland, Cincinnati and St. Louis combined, and greater by \$500,000,000 than that of the Chicago metropolitan district in the last Federal census.

Pittsburgh came into concrete consciousness of herself and her resources upon the one hundred and fiftieth celebration of her foundation, which also marked the day of her name. George W. Guthrie was mayor in 1908 and entered enthusiastically into the plan for the observance of the occasion. The week set apart for the celebration began September 27 and continued through October 3, with an incidental outburst July 4. The days selected do not coördinate with the day upon which Forbes arrived at the site of Fort Du Quesne (November 25, 1758), because those in charge were aware that outdoor exercises could not be carried out in the weather conditions peculiar to the month of November and, desiring to make the occasion memorable in local and national history, agreed upon the dates given. Mayor Guthrie, in order to give ample time in which to make proper and adequate preparations, issued his proclamation in which he recited the historical provocation and authority for the event with characteristic eloquence and precision, among other things saying:

On November 25, 1758, the British and Colonial troops under the command of General John Forbes took possession of the smoking ruins of Fort Du Quesne, which had been abandoned the day before by the French and Indians. As the sun was setting, the British flag was raised by the brave Pennsylvanian, Col. John Armstrong, in the presence of Washington, Forbes, Boquet, Mercer, and other noted American and British soldiers, and the name of the great Pitt, whose genius had conceived the expedition, thus signally crowned with success, was conferred most appropriately upon the site between the Forks of the Ohio, which was long thereafter known as the "gateway of the West."

This marked the beginning of the first permanent white settlement of the spot upon which our great city is located, as well as the conferring of its name, for the attempt of the Ohio Company to establish a fort and trading post at the Forks in February, 1754, had been rudely terminated by the advent of an overwhelming force of French and Indians two months thereafter, while the troops of Forbes a little more than four and a half years later compelled the French garrison to destroy its defenses and habitations, and abandon forever the attempt to make the place a French settlement.

On November 25 of the present year will occur the 150th anniversary of the permanent founding and naming of Pittsburgh and it is most fitting that the event be celebrated in a manner appropriate to the city's important history and its great growth and achievements in many lines. To that end, Councils appointed a committee to coöperate with the General Committee of citizens in arranging for a suitable program of ceremonies.

As the first important act of General Forbes and his army, after taking possession of and naming the site of Pittsburgh, was to hold a thanksgiving service, so it is very appropriately contemplated to begin the week of celebration with suitable religious services in all the churches. It is proposed to utilize only the evenings of the next three days for appropriate ceremonies and functions. The last three days of the week will be occupied with outdoor demonstrations and parades and displays. One day will be particularly known as "Greater Pittsburgh Day."

The industrial, commercial, artistic, educational, musical and literary growth and progress of the city will be properly illustrated during the week, and the great historic events of the community will be fittingly commemorated and reproduced. There will be military, marine and civic pageants. A special effort will be made to induce all former Pittsburghers, now living elsewhere, to visit their old home at this time. The President of the United States, and other distinguished Americans, will be asked to be the city's guests, and representatives of the Pitt, Forbes and Schenley families will be

invited from abroad. There will be an exhibit at the Carnegie Art Galleries of paintings of distinguished Pittsburgh and other Americans and of old Pittsburgh scenes, while a special effort will be made to have the Western Pennsylvania Exposition this year more thoroughly representative of Pittsburgh industries than ever before.

The Director of Public Works, in connection with a sub-committee, will have charge of the Independence Day celebration, this official having had charge of events in previous years. On November 25, the City's Birthday, will be appropriately observed, an efficient sub-committee having been appointed to have special charge of the program of the day.

The idea of the sesqui-centennial was originated in an editorial written by Burd S. Patterson and printed in the "Pittsburgh Post," November 25, 1906, who vigorously followed his initiative in other editorials and communications, all urging the celebration of this paramount municipal event. Mr. Patterson prepared a detailed tentative plan for the celebration which he presented to the Pittsburgh Chamber of Commerce and to Mayor Guthrie and later to the Councils of the city of Pittsburgh. Later, through the intelligent activities of Mrs. Edith Darlington Ammon and Miss Julia Morgan Harding, the Daughters of the American Revolution endorsed the project and began vigorously to coöperate with the city agencies in the promotion of the plans for the seven days' celebration. Councils in both branches also took an immediate interest in the affair and appointed committees from each branch to act with the General Committee which was appointed by Mayor Guthrie. The General Committee met, with Mayor Guthrie in the chair, in Common Council Chamber, May 7, 1908, and, at the suggestion of the mayor, Burd S. Patterson acted as temporary secretary. H. D. W. English was made chairman of the permanent organization; Hon. James W. Brown, H. J. Heinz and Mrs. Edith Darlington Ammon first, second and third vice-presidents, respectively; John B. Jackson, treasurer; Mr. Stevenson, chairman of the Executive Committee; and Burd S. Patterson, secretary. Mr. English was not able to accept the chairmanship, and Mayor Guthrie was elected in his room.

The executive committee decided to make the celebration a three-fold affair. The first celebration was to be held on Independence Day, and was in charge of A. B. Shepherd, Director of Public Works, who was named as chairman of the sub-committee. The second part of the celebration was fixed for the week of September 29-October 3, the final part being arranged for observance November 25, the anniversary of the occupancy of the Site of Fort Du Quesne by the army of General John Forbes. The carrying out of these plans involved an expenditure of more than \$50,000, which sum was readily raised by the sub-committee in charge. The credit of raising this money belonged to Col. James M. Guffey, chairman, and to Edward M. Bigelow, vice-chairman, of this sub-committee. The Carnegie Steel Company, through the interest of A. C. Dinkey, contributed \$10,000 to defray the expenses of the observance of Independence Day. This celebration was carried on concurrently in Schenley, Washington, McKinley, Arsenal, Holliday, East, West and Ormsby Parks and in Snyder's Grove and Bigham's Field, all under splendid auspices during both day and evening. A memorable incident of the day was the unveiling and dedication of a marble slab upon which was hung

a bronze image of the late Hon. C. L. Magee, designed by the sculptor Augustus St. Gaudens, and presented to the city of Pittsburgh by many citizens, who contributed to the purchase and erection of this fine memorial. The monument is erected in the shape of a public fountain facing the entrance to the Carnegie Library in Schenley Park. The widows of both Messrs. Magee and St. Gaudens were interested spectators of the event.

Pittsburgh, as a matter of fact, has little of obligation either in its essence or its historical origin to the adventitious circumstances that invest its origin. England and France struggled for its site because of its putative advantage as a military post and because it had the other advantage of being at the head of Ohio river navigation. Each of these nations had its peculiar reasons for making an effort to possess itself of the important triangle that might at some time figure largely in plans for western development. State and Church were factors of calculation almost identical in importance in the instance of the Gaul, while the Briton had in mind to use it merely as a link in a great chain of posts and forts that would preliminarily punctuate her progress towards the Mississippi and the South and West. The content of the interior of America was not yet apparent to the pioneer investigators that were "spying out the land," nor was it yet patent to respective contenders what was really involved in the contest.

However, the names of Forbes and Pitt and Penn and others of historical fragrance were thought to be properly associated with any idea of an appropriate celebration of an event of as much importance as a century and a half of real history of one of America's greatest cities, and earnest effort was made through the agency of Col. Charles E. E. Childers, then, as now Great Britain's efficient vice-consul at Pittsburgh, to induce the descendants of these early friends of Pittsburgh to grace the occasion by their presence. During the week of the celebration the city had as its guests the Misses Hester Louise Pitt Taylor and her niece, Madeline Hester Pitt Taylor, direct descendants of William Pitt, first Earl of Chatham, through his daughter Hester, wife of the Earl of Stanhope; Hon. Eric C. F. Collier, of England, accompanied the Pitt descendants. Arthur Forbes and wife, of Edinburgh, descendants of Arthur Forbes, eldest brother of General John Forbes, who delivered Fort Du Quesne, were also guests. They were enabled to visit the grave of their uncle in the churchyard of Christ Church, Philadelphia, en route. The great-great-granddaughter of Samuel Washington, George Washington's brother, Miss Martha Washington, of Philadelphia, was another welcome visitor to the city during this week. Distinguished Americans who were guests at the various ceremonies were Vice-President of the United States Charles W. Fairbanks and wife; Governor Edwin S. Stuart and Lieutenant-Governor Robert S. Murphy; General Horace Porter, former Governor Samuel W. Pennypacker, Justices S. L. Mestrezat, and William P. Potter of the Supreme Court of Pennsylvania, and many other prominent Americans closely related ancestrally and otherwise to the celebration.

The events of the week developed in an orderly sequential manner, all

of them opposite and all of them odorous of the precedent and the tradition they were intended to typify and illustrate. As the first act of the English leader was to give thanks to the Supreme Being for the successes that had attended his expedition from the Delaware to the Ohio, so in this instance the denominations of the city, in their respective peculiar methods, united with the strangers within their walls in general thanksgiving for "what God had wrought" for all in a century and a half in the "New World," particularly in Pittsburgh. Bishop Cortlandt Whitehead, of the Protestant Episcopal Diocese of Pittsburgh, conducted the special services in Calvary Episcopal Church, among his auditors being the Pitt descendants and their guest, Mr. Collier. The relatives of General Forbes worshiped at the Sixth United Presbyterian Church, while the other visitors went with friends to their ordinary places of worship. The notable event of the day was the "Union Service" at the Nixon Theater, at which Chancellor S. B. McCormick, of the University of Pittsburgh, presided, and at which ministers of the Protestant, Jewish and Romish churches took part. Addresses were made by Mayor George W. Guthrie, Dr. John A. Brashear, Father A. A. Lambing, Dr. Daniel Dorchester and Dr. J. Leonard Levy, the distinguished Jewish Rabbi. An overflow meeting was held in front of the Allegheny county court house, at which Dr. S. Edward Young presided.

Monday morning's exercises were acclaimed by salutes from artillery on Herron Hill and other eminences, by shrieks from thousands of whistles from Pittsburgh's mills and workshops, and in numerous noisy demonstrations that left no doubt (at least in the ears of the guests and visitors) of the general sincerity of the entertainers. Heralds upon horses caparisoned as were those of the eighteenth century, the heralds themselves wearing the garb of that time, rode through the city proclaiming the formal opening of the celebration, while the cheers of the hundreds of thousands thronging the streets gave it the vocal sanction and encouragement that its importance demanded. This feature of the entertainment was the inspiration of Thomas M. Walker, Pittsburgh student of antiquities and local historian.

The distinctive historical event of the day was the installation upon the walls of Boquet's blockhouse at the "Point," of a tablet commemorating the visits of George Washington to that locality both before and after its discovery by himself. The local chapter of the Daughters of the American Revolution had provided and prepared this tablet, which was presented by Mrs. Edith Darlington Ammon, regent of the chapter. Mayor Guthrie delivered an eloquent address, and the dedication speech was made by Mr. Church. A fitting historical color was given to the closing exercises when Mrs. Ammon raised the flag of France, Mr. Arthur Forbes that of Great Britain, and Miss Mary Brunot Roberts the American flag, over the spot that each had been raised upon within fewer than twenty-five years of each other between 1754 and 1775. This sacred spot was that which George Washington had noted as one of peculiar natural military and commercial advantage when he was sent by the Governor

of Virginia and the managers of the Ohio Company (among other things) to select and to approve another location entirely for purposes of state and corporation, which had already been selected and approved by other commissioners. Washington's selection was accepted by his principals and preparations for its use were on the way when the French took it over. Braddock's defeat and death and other expenditures of blood and money intervened before the eyes of the dying Forbes saw the flag of England wave over the ashes of the abandoned French Fort Du Quesne.

A tea in honor of visitors and guests was served by members of the Twentieth Century Club after the ceremonies at the Point. In the evening a civic reception was given at Duquesne Garden, at which Mayor Guthrie gave an address of welcome and the foreign and domestic guests were introduced to the ten thousand attendants. The dance that followed, the grand march led by Mayor Guthrie and Miss Hester L. Pitt Taylor, was the largest social event. This entertainment was under the auspices of the general committee.

Tuesday was devoted to showing the foreign visitors and such of the invited guests as were not familiar with the resources of Pittsburgh, the treasures of this manufacturing city, which were spread out on acres of floors and miles of tables in the immense buildings of the Pittsburgh Exposition Society, that for a quarter of a century had annually expressed to the world the mysteries of electrical, steel, glass, and iron phenomena that had found form and substance as transferred from the brains of Westinghouse, Carnegie, Jones, Oliver, and the rest of that army of thinkers and artificers who have made Pittsburgh the wonder city that it is. The day was all too short for many of those to whom the "half had not been told." These visitors afterwards declared that they had never in one day been face to face with as many and as various products, and that their regrets were that they had not been able to understand all that had been shown them.

The committee on entertainment visualized Wednesday, September 30, in its Marine Day Exhibit, samples of all internal river craft in use since the Indian constructed his bark canoe and paddled it from the sources of the Allegheny and Monongahela to their confluence at Pittsburgh and followed the Ohio to the Gulf of Mexico from its junction with Mississippi, not oblivious to the natural treasures of the tributaries of the "Father of Waters" as they made their seasonal journeys from "clime to clime." Captain James A. Henderson, a veteran river man and expert in transportation, was in charge of this river display and had forgotten nothing of river history or of its minutiae of methods of either freighting or traveling, in expression upon this eventful day. Canoes, bateaux, kentuckles, flatboats, arks, skiffs, rafts, houseboats, primitive steamboats, later steam vessels, towboats with their great tows of coal, coke and various freights stowed either in modern flats or model barges, stately passenger boats, launches, electrical and steam, dredges, sand diggers, motors, each and all were in this parade, their crews appareled as of day and generation, everything designed upon strict historical prescrip-

tion. Mrs. James A. Henderson was chairman of the ladies' reception committee and contributed very materially to the many items requisite to the traditional accuracy of the representation.

The order of the parade from the Monongahela wharf at the foot of Wood street to the Ohio river and thence to the Government dam at Davis Island illustrates the historical idea. An Indian canoe fleet manned by thirty Cornplanter Indians in command of Thomas W. Jacobs, a descendant of the Cornplanter Chief, "Cornplanter." The Sieur Rene Robert Cavalier de la Salle, with French attendants and Indians in costume of the day. Celoron de Bienville, as he appeared as Galissonniere's representative with Indians in canoes and his French contingent. George Washington and Christopher Gist on a raft in the Allegheny river, 1753. Flatboat with pioneers en route to lower rivers. Raft of rough timbers. The "New Orleans," first Ohio river steamboat, built at Pittsburgh and sent to New Orleans. Coal boats, in pairs. Fleet of modern canoes. Modern towboats with tows. Dredge boats and sand-diggers. Motor boats.

The banks of the three rivers were crowded with hundreds of thousands of spectators from Pittsburgh, on both sides of the rivers to Davis Island dam, who added to the noises made by steam whistles, sirens, horns, bands of music and other means of confusion, their shouts ascending until the hills, reëchoing these gave back a deafening and diversified noise never before heard at the Work of the Ohio.

Pittsburgh at this time was on the brink of merging the city of Allegheny with its own government, and this came the year following the sesqui-centennial. This consummation had been devoutly desired for many years, but obstacles, tentative, artificial, sentimental and legal had been interposed until the joint vote of 1907-08 had primarily decided the matter and the decision of all of the State and national courts had confirmed it. With the certainty of consolidation in view, the committee in charge of "Greater Pittsburgh Day" had arranged a program at once commemorative of the event and thoroughly jubilative of its consummation.

H. D. W. English, chairman of this committee, with his principal aides, Col. John P. Penney, Albert York Smith, Edward White and Major William H. Davis, the latter in charge of all military matters relating to the general parade, prepared a program that included every aspect of the affair both as to its meaning and its general definition. While the same historical elements did not enter into the constituents of a parade that would visualize the merging of the cities as would in that of Marine Day, it was susceptible of many luminous suggestions as expressed in floats, streamers, pictures and illustrations of the civic and manufacturing resources of both cities, and much ingenuity and art were manifest in the exhibits carried by the floats and great trucks that made up the parade. Further diversification came of the fine military display that Major Davis was able to get together, one of the largest and most notable in the traditions of Pittsburgh's military exhibits. The scheme of the parade was to have a "beautiful and instructive parade, not too large, which should

illustrate the growth of the city from the beginning in all lines." This vision of the admirable and appropriate was opulently realized in the "testimony of the floats and trucks" and in the accuracy of the apparel worn by those who had assumed the characters of the principals in the several periods covered.

Major-General Samuel B. M. Young, U. S. A., retired, a native of Allegheny county, was chief marshal, with John P. Penny, colonel of the National Guard of Pennsylvania, adjutant-general and chief of staff, with thirty-four mounted aides, including nine cadets from the United States Military Academy at West Point. An escort of mounted police, with the entire Eighteenth Regiment of the National Guard; the Fourteenth Regiment and Battery B of the same body; the civic committee in charge of general arrangement, State and city officials in carriages, completed the first division, which also had the great float symbolizing the growth of the city from 1758 until 1908.

The second division was in command of Edward G. Lang, director of the Department of Public Safety, with twelve aides, a color-bearer of the flag of the city, and two outriders. In this division (The City of Pittsburgh) was the float typifying the City of Pittsburgh—Father Pitt, Liberty and Justice; the panels of the float displaying the various city departments, while another float illustrated the work of the Bureau of Parks, and two other floats depicted the work of the Department of City Playgrounds. The Department of Public Safety was shown in its various operations by representatives of the bureaus of fire, police, and health, those in the several vehicles, both in attire and action showing the beginnings of things and the progress made in the years that made up the century and a half of municipal endeavor.

Lewis A. Anshutz, lieutenant-colonel of the National Guard, was in charge of the division that made the Historical Display. Behind him rode his aides and seventeen Cornplanter Indians from Northern Pennsylvania. Floats illustrating important local and vicinity historical happenings were those showing Washington and Christopher Gist at Wainwright's Island on a raft; also carrying Scottish pipers and drummers in costume; representing Armstrong raising the British flag over the ruins of Fort Du Quesne in 1758; General John Forbes and Andrew Carnegie; Colonial and Highland soldiers with drummer boy and one hundred clansmen in the tartan of their peculiar clans. Other floats in this division showed scenes from the French and Indian War; Early Settlers; Pontiac War; incidents from the Revolutionary and War of 1812; another carried the Veterans of the Civil War; another the sailors of that war; one carried a *fac simile* of the gunboat "Pittsburgh;" still, another, some of the historical cannon that the citizens of the city had prevented Secretary of War John B. Floyd from sending to the forces of the Confederates in 1861; the drum corps of Veterans of the Civil War; eleven carriages carrying Commander-in-Chief Henry M. Nevius, of the Grand Army of the Republic, and other veterans; members of the Military Order of the Loyal Legion; Allegheny County Grand Army Association; Society of Ex-Prisoners of War and the members of the corps of the Naval Recruiting Station at Pittsburgh and their paraphernalia.

The Fourth Division was in command of T. W. Dana, marshal, and Col. H. P. Bope, and was made up of uniformed semi-military and fraternal societies, escorted by the Boys' Brigade, Third Regiment, of which Colonel Bope was commander; the Washington Infantry, Heath's Zouaves, Eighth Regiment Boys' Brigade, Duquesne Greys, St. John's Cadets, Voegtly Cadets, Irish Volunteers, Knights of Pythias, Sixth and Second Regiments, Knights of the Golden Eagle. Many other floats carried in uniform all of the secret and semi-secret societies of the city and county, these making up very largely the Fourth Division.

The Fifth Division was made up of the educational expressions of city and county in splendid definition, the venerable John A. Brashear being honorary marshal. Prof. J. C. Fetterman, dean of the University of Pittsburgh, with one hundred aides, was at the head of the student body. One hundred boys from the Grade Schools represented Elementary Schools. Floats typifying beginnings of educational effort in Western Pennsylvania; the log school house; and one hundred High School pupils represented Secondary Schools. An interesting float showing "Education and Labor" was followed by one hundred scholars from the Carnegie School of Technology, representing technical education. Higher Education was illustrated by replicas of the proposed Hornbostel group of buildings for the University of Pittsburgh, that have since been erected. These exhibits were surrounded by figures in caps and gowns and by one hundred University students.

The Sixth Division was headed by Major Alexander Henderson and his adjutant, W. T. Hamilton, escorted by the Brotherhood of Railroad Trainmen. This division was composed of the various city and county labor organizations, which were numerous and finely represented, all conspicuous in their simple and expressive regalias. Their respective floats showed carpenters, plumbers, bricklayers, sheet metal workers and those of other related organizations at work. An impressive display was that of the Brotherhoods of Locomotive Engineers, Firemen and Trainmen, and of the Order of Railroad Conductors.

Another eloquent exhibit was that of the Manufacturing interests of the city and vicinity which constituted the Seventh Division, under Charles J. Graham and John H. Niebaum, marshal and adjutant, respectively. Fifteen floats, splendidly equipped were used to display the products, in part of the exhibitors.

Frederick R. Babcock was marshal of the Eighth Division, exhibiting the commerce and transportation resources of the Pittsburgh section. The Pennsylvania Railroad Company objectively gave a concrete idea of its plans of operation in the various locomotives, train make-ups, and methods of bringing to and carrying away from Pittsburgh the products of the district. Another float of this company luminously represented the progress in manufacturing and in transportation by a great factory on the bank of a river with railroad trains, steamboats, barges and stage coaches of the first half of the preceding century on the bank and in the river as punctuators of the progress of facilities within later years.

Manufacturers had in line sixteen floats equipped by dry goods firms, commercial concerns, associated banks, the Flour and Feed Exchange, lumber dealers, and many other firms and corporations. Each of the floats was accompanied by escorts of about one hundred men, many in uniform and not a few very picturesquely attired. The floats were drawn by from four to forty horses caparisoned with the colors of Pittsburgh.

The route was from the center of the city of Allegheny to Fifth avenue, Pittsburgh, to Bellefield avenue, where it was reviewed and dismissed. The Chamber of Commerce of Pittsburgh gave the guests of honor and other invited guests a dinner at the Duquesne Club. This body also tendered a reception to these guests and others in the evening. The same evening the great carnival, the masquerade, was given by those in charge in lower Fifth avenue and Liberty street that ran far into the night, a notable incident of the plethoric program that Chairman English and his committee had provided for the pleasure of citizens and visitors alike. The spectators of the parade were estimated at over five hundred thousand people.

Friday, October 2nd, was another day full of interest to many thousands who witnessed the ceremonies and heard the addresses incident to the laying of the cornerstone of the Soldiers' Memorial Hall, that magnificent edifice that the gratitude of the people of Allegheny county prompted the commissioners of the county to erect at Bigelow boulevard and Bayard street in Schenley Farms. Captain Charles B. Price was the resourceful chairman of the occasion, which was preceded by a fine parade of the city and county soldier body, more particularly the Veteran Soldiers' and Sailors' Organization, under command of Grand Marshal James Emory Porter. Other components of this parade were the students of the University of Pittsburgh in cap and gown; Sons of Veterans; Posts of the Grand Army of the Republic; Spanish War Veterans; members of the Union Veteran Legion Drum Corps, and other organizations. Henry M. Nevius, Commander-in-Chief of the Grand Army of the Republic, was the chief honor guest. Bishop Cortlandt Whitehead, of the Protestant Episcopal Diocese of Pittsburgh, made the opening prayer. The chairman of the occasion then turned over the conduct of affairs to a special committee of the veterans, consisting of Albert P. Burchfield, Past Senior Commander-in-Chief of the Grand Army of the Republic; Past Chaplain-in-Chief of the Grand Army, Rev. Thomas Newton Boyle, D. D.; Isaac K. Campbell, and others. Major Burchfield introduced Mayor Guthrie, who welcomed soldiers and friends, and after Dr. Boyle had read portions of the Scriptures appropriate to the proceedings, a list of the articles deposited in the cornerstone was read. The Officer of the Day unfurled and presented the flag, which was saluted by those present, the unction and grace with which the West Point Cadets did this duty attracting the applause of the multitude. General Horace Porter, a native of Pennsylvania, a member of General Grant's staff during the Civil War, and a member of the various organizations represented at the ceremony, delivered an oration that was com-

parable with that of Daniel Webster at a similar ceremony when the Bunker Hill monument was dedicated, in eloquence and apprehension of the importance of the occasion. After the workmen had properly placed the stone, Col. I. K. Campbell gave it the customary finals, and the audience turned to listen to the addresses of Vice-President Charles W. Fairbanks, Governor Edwin S. Stuart and others. The descendant of William Pitt, Earl of Chatham, Miss Hester L. Pitt Taylor, was formally introduced and expressed her pleasure at being privileged to be present. Bishop J. F. Regis Canevin, of the Roman Catholic Diocese of Pittsburgh, pronounced the benediction.

Following the ceremonies at Memorial Hall, the great crowd crossed the boulevard to the grounds of the University of Pittsburgh to participate in a similar ceremony on its campus under the auspices of a subcommittee of the sesqui-centennial committee. Dr. Samuel Black McCormick, Chancellor of the University, was chairman of this committee and, as in the instance of Memorial Hall, asked Bishop Whitehead, a member of the board of trustees of the University, to deliver the invocation. George W. Clapp, chairman of the board of trustees of the University, was master of ceremonies. The students sang "Veni, Vidi, Vici." Mayor Guthrie, Vice-President Fairbanks, Former Chancellor Rev. Dr. William J. Holland, and John W. Sheatz, treasurer of the State of Pennsylvania, made short addresses preceding the laying of the cornerstone of the new building by Chancellor McCormick and Chairman Clapp. "America" was sung by the students and spectators, and after Bishop Whitehead had pronounced the benediction the crowd dispersed.

From four to six o'clock in the afternoon the lady guests of the city were entertained at a tea in Carnegie Music Hall by the Women's Reception Committee, of which the wife of Mayor Guthrie was chairman. This tea was attended by fully three thousand ladies, during which a musical program was rendered by an orchestra. The principal guests were: Mrs. Fairbanks, Miss Hester Louise Pitt Taylor, Miss Madeline H. Pitt Taylor, Mrs. Arthur Forbes, Mrs. Guthrie, Miss Martha Washington; Mesdames H. D. W. English, John Dalzell, James W. Brown, W. J. Holland, A. H. Childs, J. G. Holmes, Alexander Laughlin, Jr., J. I. Kay, William Thaw, Jr., Herbert DuPuy, D. J. Thayer; Miss Mary Louise Jackson and Mrs. Stevenson.

At the great campfire held that night in Carnegie Music Hall, under the auspices of the Allegheny County Grand Army Association, Captain W. J. Patterson was chairman. Mayor Guthrie, Colonel Nevius, Grand Army Commander, and others spoke. When presented with a loving cup by his comrades, General Horace Porter feelingly and eloquently replied to the address made by Charles Otto Smith in behalf of the Grand Army Association. Mrs. John Sharp McDonald sang the soldier songs that she had rendered for nearly a half century. James Francis Burke also made one of the most eloquent addresses that was delivered throughout the various meetings held in honor of the sesqui-centennial. This campfire of the few remaining veterans of the War of the Rebellion was one of the very fine events of celebration week because of its occasion, the great age

of several of its participants, and the sad and reverent attention that was given to every veteran who spoke at this notable gathering. General Horace Porter was one of those present whose life was lengthened out a dozen years to add to his honors and his fame as one of the very great Americans of two centuries upon two continents in both of which he was equally revered and honored. Most of the others in attendance at that campfire are now upon "Fames Eternal Camping Ground."

Saturday, October 3rd, closing day, was marked by a variety of pleasing events no less interesting than many of those that had attracted the hundreds of thousands of visitors during the week. George W. Baum, descendant of one of Pittsburgh's oldest pioneer families, was in charge of the horse races in the afternoon that were conducted in the Oval in Schenley Park. Eight of these races were on the program for the matinee, the resources of the owners of all of fine horses in and out of the city having been placed at the disposal of Mr. Baum for the occasion. The affair was under the auspices of the Sesqui-Centennial Committee, which had provided a number of cups for the victors in the several events. The English and Scotch guests and other distinguished visitors were interested spectators of the races.

Dividing interest with the racing events were several flights made in his dirigible balloon by Roy Knabenshue, who was in the service of the committee during the week of the celebration.

The South Side of Pittsburgh, which, because of geographical reasons, had not been included in the route of the general parade earlier in the week, had arranged a program for the entertainment of the citizens and guests of the city for Saturday afternoon in the shape of a parade through its historic streets and thither went thousands who were both interested and pleased with the displays of the manufactured products of that "Workshop of Pittsburgh" arranged on floats and variously disposed in the great procession that had been provided for the affair. In addition to their own exhibits, the Sesqui-Centennial Committee and various other participants in the vast pageant of "Greater Pittsburgh Day," had added very many of the historic floats that had graced that occasion. After the parade the thousands of spectators and the participants assembled to witness the sports and contests in the spacious Play Grounds of the South Side. This sectional demonstration closed with a masquerade in the South Side and a street carnival at night.

Saturday evening the Scotch residents of Pittsburgh tendered a dinner to Mr. and Mrs. Arthur Forbes at the Hotel Schenley and to Miss Martha Washington. Later in the evening Miss Hester Louise Pitt Taylor gave a dinner to a number of visiting guests and to members of the Sesqui-Centennial Committee who had been with her and her party during the week, Vice-President Fairbanks and wife and General Horace Porter, Mayor George W. Guthrie and others, some of whom made addresses. Miss Taylor presented to Mayor Guthrie, for the city of Pittsburgh, a plate of Fuerstenburg china, carrying the arms of the Chatham

family, that had been the property of the first Earl of Chatham. The gift was enclosed in a very fine glass case.

Dr. John W. Beatty, director of Carnegie Art Gallery, had, with fine judgment, collected from his own resources, and from those of citizens of the city of Pittsburgh and Western Pennsylvania, portraits of very many of the pioneers of Pittsburgh, which he had properly and prominently placed in one of the galleries of the Carnegie Gallery and continued them on view for several weeks after the closing of the Sesqui-Centennial. Thousands of the visitors, whose forebears had been among the earliest settlers at the head of the Ohio river, many others, whose ancestors were Revolutionary War veterans, also Eighteenth Century settlers of this region, came to Pittsburgh for the first time in their lives to see the historic place that had been for generations associated with the traditions and lives of their ancestors, visited the historic spots from the Point to Braddock's Field, and then came to look at the portraits of those who in the flesh had been contemporaries of their fathers' fathers.

Similarly, Dr. William Jacob Holland had, with rare discrimination, assembled hundreds of relics of "Pioneer Days" in fine array in the Carnegie Museum, of which he is the distinguished director, every one of these eloquent of person and performance and all of incontestible origin. These relics were of even greater interest to very many than were the portraits because they were of wider range of personality and of larger general historical content. Douglas Stewart, Dr. Holland's assistant, had been of large accessory help in locating these treasures and procuring their owners' consent to their display for the great occasion. Among the exhibits were some very fine silver and china plates and other interesting souvenirs of the Pitt family. Mr. Pitt Taylor presented a fine engraving of the first William Pitt. At the same time Arthur Forbes exhibited in the Holland collection of relics, a uniform that had been worn while in the Dutch service by General John Forbes, a certificate of Burgesship at Dumfermline, a wallet and a combined snuff mull and whistle, the latter used in calling dogs in chase.

The various exhibits made by the Carnegie School of Technology, of which Dr. Arthur A. Hamerschlag is the director, were sought by very many during every day of the week.

Harrison W. Craver, Director of Carnegie Library, had, with the assistance of his bureau chiefs and other aides, prepared a splendid exhibit of books, documents and engravings in one of the halls of the library that was the resort of thousands of city visitors at all times. Much of this work was done by the Misses Elisa M. Williard, in charge of the Reference Department, and Irene Stewart and Joanna Strange. The exhibit in the Children's Department was another resort for very many because of the care and discrimination that had been made in the collection of those things that made the meaning of the Sesqui-Centennial plain to the children of Pittsburgh and vicinity.

The collection of relics and pioneer curios at the Boquet octagon at

the Point, the sole relic and remnant of Fort Du Quesne and Pitt, were also numerous and all suggestive of the day and the person of the pioneer. This locality and this octagon were of greater interest because they had been rescued from the maw of the Pennsylvania Railroad Company through the heroic efforts of Mrs. Edith Darlington Ammon (her ancestor, General James O'Hara, having been a resident of the locality before and after the Revolutionary War; a pioneer manufacturer, a distinguished citizen of village, borough and city, and the owner of the greater portion of the ground upon which both the city of Pittsburgh and the former city of Allegheny were built). Mrs. Ammon fought the effort of the corporation to condemn this "Seed of Pittsburgh" through the Pennsylvania Legislature and, by the cordial assistance of Governor Samuel W. Pennypacker, was able to save both building and site to the people of the city of Pittsburgh forever. Miss Julia Morgan Harding, her kinswoman, another descendant of earliest pioneers, was very active in the effort to save this priceless landmark that dates to 1764.

The formal observance of the actual arrival of General Forbes, George Washington and their troops at the site of Fort Du Quesne, November 25, 1758, was more quietly, but with no less historical impressiveness, carried out than were the seven days' ceremonies sixty days before. The day preceding, Hon. Charlemagne Tower, former American Ambassador to the German Empire, Governor Edwin S. Stuart and the Hon. Herman de Lagercrantz, Swedish Minister, and his secretary, Count Ludwig R. af Ugglas, arrived in the city as principal guests of the city for the day following. During the morning of the twenty-fifth special exercises commemorative of the day were held in the public schools of the city, several of which the guests visited and enjoyed the songs, recitations and drills of the pupils. Rev. Dr. J. Leonard Levy was the originator of this idea and was responsible for the preparation of the program therefor.

Appropriately enough, was the program made up by Prof. M. J. McMahon, principal of the Duquesne School, which at that time stood near the sites of Forts Du Quesne and Pitt. Historic tableaux showing the river cortege of Celoron de Bienville coming down the Allegheny river to dislodge the Virginia contingent in charge of Ensign Ward at work upon the first English buildings at the Point; Washington and Gist crossing the Allegheny river; Captain Trent building a fort at the head of the Ohio river; Braddock's defeat; Armstrong hoisting the British flag over the ashes of Fort Du Quesne, and others suggestive of pioneer accomplishment. The Board of Education had taken great interest in the preparation of this specialty and had paid the expenses.

During the morning special services of an intimate historical nature were held in the chapel of the University of Pittsburgh. Governor Swanson, of Virginia, Hon. Charlemagne Tower, and others were visitors to the Carnegie School of Technology, and at noon they and others were guests of Dr. W. J. Holland for lunch at the University Club. The same evening these gentlemen and Governor J. H. Higgins, of Rhode Island, were given a dinner at the Fort Pitt Hotel.

The formal observance services of the day were held Wednesday afternoon in the great auditorium of the building of the Western Pennsylvania Exposition Society. The Pittsburgh Orchestra, under the baton of Dr. Emil Paur, rendered Fidelis Zitterbart's overture, "Domitian," as introductory to the proceedings. A. J. Kelly, Jr., was chairman and made a short introductory address, after a prayer by Rev. Dr. Maitland Alexander, pastor of the First Presbyterian Church of Pittsburgh. Mr. Kelly then presented George W. Guthrie, mayor of Pittsburgh, who spoke briefly of the occasion, its local and general historic value and importance, among other things saying:

In this immediate neighborhood was settled for all time the controversies between the Latin and English speaking races as to who should rule the destinies of this great country. One hundred and fifty years ago, in the presence of the English troops and the provincial troops from Pennsylvania and Virginia, the British flag was hoisted over this ground and the name "Pittsburgh" given to the settlement then established, and the destiny, the future of this nation, was established. Here quickly gathered the Indian traders. Following them came traders and merchants, and they moved through this gateway of the mountains, animated by that strange land hunger which animates all humanity, and moved to the West, ever going, never ceasing, until they touched the waters of the Pacific. Here started industry after industry. The commerce of the river furnishing first by flatboats all the commerce of the Great West, slowly developing into steamboats, followed by railroads carrying not only our own products, but the products of all the East to the people of the new lands. And here came a people ready to work; sober, industrious, intelligent, who have built up this great industrial and commercial community. It is a matter of pride that we have here displayed to-day, by this great gathering, the loyalty of the people of Pittsburgh in its past, its present and its future—meeting here to-day to give expression to what you feel, your memory of the great deeds done here, the great industries carried on, your love and devotion to your city, and your determination that it will go forward until the growth from that little settlement founded here one hundred and fifty years ago to-day, will be lost in the greater growth, the greater development, the greater glory of this great city in the future.

And let me tell you, the greatness, the glory of this city, is not in its products, is not in its speed or its houses, fine as they may be, but in its people, the manhood and the womanhood that it gives to the world, in the loyalty of its people to its own best interests and to the glory and stability of its nation. That is what makes a great city. And it is because we see in the demonstration which you have given, not only to-day, but in that past week, that we feel justified in saying to the world that for its people and their loyalty we challenge the world. It is a matter of gratification, it is a matter most appropriate, that on this occasion we should have with us here representatives of interests so intimately connected with the early history and development of this State and of this district. We have with us his excellency the Swedish Minister, who comes as a representative of his king, because the first settlers on the soil of Pennsylvania came from that kingdom, and their people and their blood have come unto us and have learned to make part of that great foundation of the people who rule this State. We have with us his Excellency, the Governor of Virginia, and you will all remember that in the early days it was a question as to whether this territory where we now stand should belong to Virginia or to Pennsylvania. And we all remember, too, with great pride in the greatness of our nation, and especially in the greatness of our neighboring people, that they have set aside all personal or local advantage and voluntarily ceded to the nation, to make peace and good will, the territory over which they believed they had a right to claim authority. And by that cession they made this part of Pennsylvania. He comes here to-day to join with us in our celebration of our prosperity. And we have with us also his Excellency, the Governor of Pennsylvania, who comes here to show that community of interest, that feeling of general loyalty, which testifies to the feeling of the people of the State on the progress and prosperity and glory of Pittsburgh, and to say to us words of good will and good wishes.

Mayor Guthrie's address was followed by the singing of two songs by Pittsburgh composers, Charles Wakefield Cadman and Ethelbert Nevin after which Mayor Guthrie introduced Edwin S. Stuart, Governor of Pennsylvania who narrated the story of the settlement of Pittsburgh and the Ohio Valley in historic sequence, interspersing his address with incidents of early settlement, early transportation methods and other matters of local traditional interest. Hon. Herman De Lagercrantz, Minister from Sweden, came from the Swedish government to convey its congratulations upon the great development of a state which among other states had been originally settled by the Swedes and Finns. Hon. Claude A. Swanson, Governor of Virginia, who was very logically a guest and orator on this occasion, eloquently described the circumstances and conditions under which Pittsburgh had come into existence and Virginia's contribution thereto. Governor Swanson's address was one full of historical interest and reminiscent of the days when the present States of Pennsylvania and Virginia as loyal colonies of the British Crown coöperated to make the Ohio Valley an Anglo-Saxon settlement.

Telegrams of regret from members of the Pitt family, the Forbes family, Andrew Carnegie, and others, that they could not be present were read and after the rendition of the "Dedication March," by Ad. M. Foerster, after which Miss Amanda Vierheller sang "Home Sweet Home," by Benedict and the "Star Spangled Banner," by Key, the afternoon services were concluded. A. J. Kelly was again the presiding officer at the evening session, which was opened with prayer by Rev. Father P. J. O'Connor of the Roman Catholic Church at the Point, but later in the evening Mayor Guthrie took charge of the meeting and after briefly reciting some of the great events that were historical of the city he referred to the persons who had been pioneers of the city and wilderness before the immediate vicinity from 1735 until the present day, attributing to these the credit for the strength of the foundations they had laid and ascribing to them the glory for the steady growth and success of the city and community, but urged the people of both to keep their faces towards the future as in it lies all of the possibilities of goodness and greatness.

Dr. Hampton L. Carson of Philadelphia was the first of the evening speakers, who spoke at length upon the victory that had been won for an English speaking civilization when General Forbes rescued the great Ohio valley from the hands of the French and established a more democratic form of government and one more in harmony with the genius of the people that were already creeping over the mountains to make homes in the new West. The personnel of those pioneers was instanced as among the finest and most intrepid of that in the early, formative history of any country in the world and the history itself was spoken of thus: "No one of the original thirteen colonies can boast of a more dramatic history than Pennsylvania, and no city within the state can tell a more romantic story of her origin than Pennsylvania. It forms an important passage in a thrilling chapter, and marks a distinct achieve-

ment in the progress of liberty. American history is not a tale of accidental or fortuitous circumstances. No age, however productive of apparently strange and sudden results, stands unrelated to the ages that preceded or followed it, and whether the centuries be of silk or iron, of ease and sloth, of blood and violence, or of law and order, their characteristic phenomena can only be explained by a careful analysis of all that has gone before. The present is the child of the past; the future will be the offspring of the present. In this sense that great movement known in history as the American Revolution forms but a single chapter in the volume of human fate, and your history as a city is bound up with the influences and events which led to the American Revolution."

Dr. Carson's depiction of the physical advantages of Pennsylvania and Pittsburgh in particular as related to the other states of the Union and to the world in general, in virtue of her coastal and internal water assets was as novel as it was luminous and informative and gave to his auditors new views and thoughts of the variety and extent of these assets.

Hon. Charlemagne Tower, former American Ambassador to Germany, also a distinguished citizen of Philadelphia complemented the historical address of Dr. Carson with a mass of historical facts and deductions that were as novel as they were interesting. He quoted George Bancroft's summary of the situation when Braddock was defeated at Braddock's Field, "At that moment in the whole valley of the Mississippi to the head waters of the Alleghenies, no standard floated but that of France." Mr. Tower's address fairly reeked with descriptions of men and events that hitherto had either been unknown or but nebulously known to most of the inhabitants of the western slopes of the Alleghenies and, like that of Dr. Carson, was replete with narratives of incidents of early Colonial struggles.

A letter read by A. J. Kelly, Jr., from Andrew Carnegie regretting the necessity of his presence elsewhere as being his apology for his absence. He congratulated the people of Pittsburgh that Dunfermline, Scotland, had been the native place of himself and General John Forbes and that recently he had had the good fortune to buy the "romantic and historic estate, Pittencrieff, of which he was the Laird and of which I now hold the title as his successor. My connection with Dunfermline is strengthened by another incident. Its provost, General Halkett, and his son both fell on Braddock's Field, now occupied by the steel works. I like to dwell upon these coincidents which bring my native town and my adopted city so closely together.

"Great as Pittsburgh's progress has been in the past and as commanding as her position is her future is to be still greater if she be true to herself. One feature pains me deeply—the passing away of her prominent citizens from time to time without leaving behind them some evidence of love and gratitude for the city in which they made their fortunes. Surely this city in which they have prospered should not be forgotten."

Other letters from descendants of early inhabitants and pioneers were read, all of them full of pleasure, both personal and relative.

That veteran musical organization that had for many decades given Pittsburgh and other musical cities vocal expression of the compositions of the world's finest composers, the Mozart Club, under the baton of Prof. J. K. P. McCollum, rendered Handel's "Hallelujah Chorus" as a finale to the celebration at Exposition Hall.

Thursday, November 26th was America's Thanksgiving Day and in honor of the occasion, Dr. J. Leonard Levy, Rabbi of the synagogue Rodeph Shalom, held a Thanksgiving sermon in that place of worship. One hundred and fifty years before on the same day Dr. Charles Beatty, a Presbyterian minister, chaplain of one of the regiments had conducted a similar service, preaching to the soldiers, officers and followers of Forbes' Army, his pulpit being a slight elevation on the bank of the river near the site of Fort Duquesne. At the services in the Hebrew Temple thirteen ministers of Protestant, Jewish and Roman Catholic churches took part.

The success of the Sesqui-Centennial Celebration was greater in its every meaning than its loyal projectors had anticipated in their most sanguine expectations. In the first instance, the historical value of the celebration, in the personnel of representative attendance, the coming of the Washington, Pitt, Forbes and other descendants of Colonial and Foreign participants in the movements that primarily made for the defeat of French aspirations and ambitions in the western parts of America, which, if they had been successful, would have meant the development of America by two widely different races under conflicting circumstances and separate and distinct ideas as to the nature of this development. Pitt's genius and the efficiency of Forbes, Franklin and Washington in their respective atmospheres gave the British and the Colonial forces advantages that the French could not overcome. It also came to pass in the Revolutionary and post-Revolutionary periods that the advantages gained in the fifties of the eighteenth century reacted to the benefit of the new United States, despite the irregular methods resorted to in those days by the "mother country" to weaken, if not destroy the structure of the new republic.

Another material, sentimental and commercial benefit was the prestige gained by the presence of so many representatives of so many foreign countries both in their representative and personal capacities.

These foreigners had been, prior to their coming, only educated, through the medium of their superficial press, their ideas of the United States in the gross, without specific information of its constituent states in their various meanings and relations to the general government. Many of these understood that Pittsburgh was a great manufacturing city, but none of these, until they had been in Pittsburgh a week and more, had the slightest idea of the magnitude of city, its resources of all kinds and of its great population and real culture. The factories were obtrusive evidence of the one, contact with the people forced the other conclusion very easily and readily. The pageants that these visitors beheld; the great parades, the displays in the Marine Pageant, all different and all assertive of the visible and invisible resources of this interior city

of America, were each and all too substantial to delude the visitors who, before they came, were doubtful of the city and skeptical of its assets. They went away marvelling but none the less full of admiration.

Another benefit was the international prominence, vulgarly, it may be termed, was the advertising that came to Pittsburgh because of its cosmopolitan attendance at the celebration. This was certainly not the subjective idea in the concept of this celebration, but, in its development and in the very nature of the presentation of the riches of the municipality from day to day, the objective feature of the observance became obtrusive and gave the strangers within the gates of the city fully as much pleasure as it did those who had prepared their products with no such prideful motives.

As it was, it was one great educational affair, more of value to those who came to see than to those who assembled the elements that went to astonish and instruct all of their American observers and in greater measure those who came from the uttermost parts of the earth. In its concretion it was the greatest and most impressive exhibit of municipal resources ever given in street pageants is the history of the world. It was literally a "World Fair" on wheels.

Pittsburgh, as in the instances of other large cities, began the erection of those buildings, modernly known as "Sky-scrapers" and very soon had several of the finest expressions of the style in the United States, the Henry W. Oliver Building, in Smithfield street, Oliver and Sixth avenues, twenty-five stories in height; the great Frick buildings, Fifth avenue, Grant and Diamond streets, twenty stories high while the majestic structures of the First National, the Farmers' Deposit National, the Commercial National, the Union National and the Peoples' National Banks are fine types of the sky-scraper in modified styles.

Other very large new structures that distinguish the march of progress in architecture, stimulated by necessity that have been erected in the city within the last two decades are the great mercantile buildings at Sixth avenue and Smithfield street, and that at Sixth avenue, Wood street and Oliver avenue erected by the Henry W. Oliver estate; the Rosenbaum Building at Penn and Liberty avenues and Sixth street; the Horne Building at Fifth street and Penn avenue, its neighbor the Jenkins Arcade; the Bessemer and Fulton buildings at Sixth street and Duquesne Way; the Kaufman Building at Smithfield and Fifth avenue; the Frank & Seder Building at Diamond and Smithfield streets and Fifth avenue; the Union Arcade, which replaced the ancient St. Paul's Cathedral at Fifth avenue and Grant street; the new City-County Building at Grant, Diamond and Ross streets; the publishing buildings of the Pittsburgh Gazette Times, the Pittsburgh Post and the Pittsburgh Press; and that of the Pittsburgh Dispatch; the reërection of the Pittsburgh Grand Opera House and the erection of the Davis Theatre; the new Harris Theatre in Diamond street; the Park Building at Fifth avenue and Smithfield street; the Arrott Building and the Columbia Bank at Wood street and Fourth avenue the great new home of the Pittsburgh Chamber of Commerce in Smithfield and Liberty streets and Seventh

avenue; the Federal Reserve Bank and Westinghouse buildings at Ninth street, Liberty and Penn avenues; the passenger stations of the Baltimore & Ohio at Water and Smithfield streets; that of the Pennsylvania at Liberty and Eleventh streets and Federal street in the North Side; the Wabash at Liberty and Fourth and the Lake Erie at Smithfield and Carson streets are some of the more prominent of the down-town improvements.

In the Oakland district, the fine groups of the Carnegie Foundation, the Library, the Museum, and the Department of Fine Arts all in one great building; the many structures of the Carnegie School of Technology are each and all splendid buildings, the gifts of the late Andrew Carnegie to the city of Pittsburgh.

The group of the University of Pittsburgh in Schenley Farms is another distinctive feature in the character and number of new buildings that have been erected in this locality in recent years. In addition to these in the Farms are the several clubs that have found handsome homes in this locality. The Pittsburgh Athletic Association has the largest and finest club house in the city at Fifth avenue and Bigelow boulevard and the largest membership; adjoining this is the fine building of the University Club and nearby are the Twentieth Century, and the Concordia Clubs. The Soldiers' Memorial hall, one of the finest expressions of Henry Hornbostel's architectural ability in the United States, is Allegheny County's contribution to the Soldiers of the Civil War, at Bigelow boulevard and Bayard street. At a little distance is the home of the Historical Society of Western Pennsylvania, while farther out Bigelow boulevard are the First Baptist Church, said to be the finest in Pittsburgh; the buildings of the Pittsburgh School for the Blind. In other streets in the Farms are the Armory of the Eighteenth Regiment of the National Guard of Pennsylvania; the First United Presbyterian Church; the Bellefield School; the Mellon Institute, the chemical building of the University of Pittsburgh erected by the sons of Judge Thomas Mellon; the Pittsburgh Musical Institute; the Masonic Temple of Pittsburgh that houses nearly all of the lodges of the order in the city; the Pittsburgh Mosque, the home of the members of the "Shrine," the largest building and auditorium in the city. In these Farms are many of the finest residences and homes in the Greater City, all of them of recent erection and all of them built "to live in only."

Farther out Fifth avenue at Craig and Bellefield streets is the great Gothic structure, St. Paul's Cathedral, built and dedicated in the decade of 1900, one of the handsomest buildings for worship in the United States. The Shanahan structure at Fifth avenue and McKee Place is one of the largest and most imposing business buildings of recent erection in the city.

The business and residential buildings in the East End of Pittsburgh are "too numerous to mention," literally, because of the great area of recent development in this progressive section. The banking sky-scraper of the East End Savings & Trust Company at Penn and Highland avenues and the Thompson Building in Highland avenue, near

Penn are fine expressions of modern architectural beauty. The Pennsylvania Railroad Company in recent years gave to East Liberty a splendid passenger station which is another fine locality asset. The National Biscuit Company, the Pennsylvania Chocolate Company, the Dunlevy Packing Company and other concerns have added their large new structures to those already forming large groups in the eastern section of the city.

The "Filtration Plant" of the City of Pittsburgh built under the supervision of the late Edward Manning Bigelow, at that time Director of Public Works, is perhaps, the finest monument that that far-sighted and alert official left to himself, although the Boulevard and Park system, among many others, remain to testify to his vast energy and prevision. Pittsburgh had for years in its every section been the year-around victim of typhoid fever, so much so as to attract international attention to the mortality. Senator William Flinn, Director Bigelow and Senator C. L. Magee made critical examinations of the methods of water purification, sterilization and filtration in both America and Europe and had the results of their investigations reduced to intelligible reports for the information of the members of Pittsburgh's City Councils and the various departmental heads of the city, together with indicated suggestions and recommendations. It was found that the mortality was not confined to the working and industrial classes but was of general area of attack throughout the city and its suburban neighbors dependent upon the city water supply or that taken from the same stream, the Allegheny river, which drains that great water shed originating in Southwestern New York and extends through the populous regions of Western and Northern Pennsylvania. The banks of this sinuous stream are the sites of numerous cities, towns and villages, while those of many important tributaries furnish sites for other cities, towns and villages, the residents of which used it and its influents for common sewers. The water of this stream, taken from it five miles above its union with the Monongahela river at the Point, was the ordinary commodity for every household in the cities of Pittsburgh and Allegheny prior to the installation of the Filtration Plant.

To give the city of Pittsburgh pure drinking water in unlimited supply councils of the city passed an ordinance which was approved June 10, 1896 authorizing the appointment of a Filtration Commission to thoroughly investigate the character of the present supply of the city of Pittsburgh in its relation to public health; to ascertain the effect of sand filtration; to ascertain the advisability of establishing a sand filtration plant for the city of Pittsburgh and to present an estimate of cost of establishing and maintaining it; to investigate the feasibility and advisability of seeking other sources of supply; to report its findings and representations, together with such evidence as may be useful for the guidance of Councils of the city, in acting prudently and for the best public interest in this matter.

Having been assured of the constitutionality of the legislation that had been passed to enable action by the city in the affair, Robert Pit-

cairn was elected chairman, William McConway, vice-chairman and George L. Holliday secretary of the Commission, July 6, 1896; Dr. W. J. Holland was named as chairman, with Dr. J. R. Vincent and William Flinn as a committee on Methods of Procedure. As members of the committee on Water Analysis, Dr. Holland was chairman with Dr. J. Guy McCandless and Dr. J. R. Vincent; on General Information, William McConway, chairman and H. P. Ford and George L. Holliday; on Other Sources of Supply, William Flinn, chairman and E. M. Bigelow, S. D. Warmcastle and James M. Bailey. To assist these committees Allen Hazen of New York City, was appointed Consulting Engineer; Morris Knowles, of Lawrence, Massachusetts, resident engineer, Walther Riddle, Ph. D., Pittsburgh Chemist and W. R. Copeland of Lawrence, Massachusetts, bacteriologist.

The commission held seventy sessions to consult and to hear reports submitted by the resident engineer. It also visited as a body the filtration plant and beds at Lawrence, Mass. and inspected the mechanical appliances for the filtration and purification of water in New York City, Louisville, Ky., Cincinnati, Ohio and other cities of the United States. Mr. McConway visited the filtration beds and sewage treatment plants of London, England, William Flinn investigated the location of similar beds and plants at Hamburg, Germany and Dr. Holland visited plants, beds and other plans for purification at London, Paris, Antwerp, Bremen, Hamburg and Berlin, all of these gentlemen paying their own expenses.

The eventual findings of the Commission were that the "present water supply is objectionable; first, because of mud which it frequently carries, and secondly, because of its pollution by sewage." An ocular inspection of the Allegheny and Monongahela rivers and their main tributaries, under direction of the Commission, reveals the fact that from the very summits of the mountains to the intakes all are more or less contaminated by sewage, and the reports of the Bacteriologist of the Commission show the presence of bacteria in objectionable quantities, both in river water and in the tap-water as delivered.

The Commission concluded that with the proper filtration of the water supplies furnished to the people, water-borne diseases, which are so prevalent in this community, would be, undoubtedly, greatly lessened. If, in addition, more stringent regulations against the sale of infected milk and ice were enacted and enforced, and the use of water from the springs and wells and of unpurified supplies of water in mills and factories were prevented, they would be almost wholly eradicated except as the result of secondary infection from cases imported into the community.

The Commission reported that two methods of filtration, one of mechanical filtration, and the other of sand filtration had proven themselves efficient, the latter, which had been extensively employed for many years in Europe and America, had yielded upon the whole somewhat better results than the former. The method of sand filtration not only gives a supply of water free from mud, and objectionable bacterial

life, but also furnishes a supply of water of a quality adapted to mechanical purposes, suited to the uses of the industrial establishments. The Commission was also partial to the efficiency, the comparative cost, durability, simplicity of operation, and the cost of establishing the method of sand filtration. The Commission reported that after examining various other sources of water supply it had concluded that of the Allegheny river from standpoints of availability, accessibility and comparative cost was the best of all.

The conclusion of the Commission was recommendations "that the city of Pittsburgh adopt, for its water supply, the system of sand filtration upon the plan recommended herewith in the report of our Consulting Engineer, and that the system of selling water by meter be likewise adopted. For the erection of a filtration plant approximately \$1,700,000 will be required; to provide the necessary site \$500,000 should be amply sufficient; to establish the meter system will require an additional outlay of \$600,000. We recommend that your Honorable Bodies make provision for an issue of bonds for these purposes to the amount of \$3,000,000, the bonds to be issued by the proper authorities to provide for the establishment of a system of filtering and metering the water supplied to the city. In recommending an issue of bonds to the amount of \$3,000,000 we have allowed \$200,000 for contingencies, which might, but are unlikely to arise, and we believe that the sum above named will be quite sufficient to make it sure that all the water supplied the municipality will be wholesome as it certainly will be clear and free from mud."

Council took time to read and digest the voluminous report of the Commission together with those of its various experts and specialists and, although the plan had its projection in 1893 and investigation and recommendations as early as 1896 it was not until 1899 that a bond issue of \$2,500,000 was authorized, injunctions and other obstacles retarded progress until March 4, 1905 when A. M. Miller, Rudolph Herring and John W. Hill, engineers approved the gross plan and the estimated cost fixed at \$7,000,000. The site, fronting about a half mile on the Allegheny river immediately above Aspinwall has an approximate area of 15,750,000 square feet; there are about fifty filter beds each with an area of an acre, the aggregate capacity of the plant, filtration being the slow sand system, is more than one hundred millions of gallons daily. The contract for the construction of the plant was awarded to the T. A. Gillespie Company of Pittsburgh and New York and the work was completed in two and one half years. Plans are made for the expansive possibilities of the plant as the growth of the city increases and its area expands. The site occupies a flat plateau above the Allegheny river one mile and a half in length by a half mile wide, nearly opposite the great pumping station at Brilliant on the south bank of the Allegheny river from which the filtered water is pumped and delivered to the huge reservoirs in the city for municipal distribution. There is a forty acre sedimentation lake divided into three smaller lakes. The raw water from the river is turned into central basin, which is the smallest, where the greater portion of the silt is precipitated and the water then diverted

into the two larger basins and thence into respective filters until purification is assured.

Pittsburgh came into a new charter in 1911 under the Hunter Act which is supplement to Article 14 of the second class city charter act of 1901. Under it the legislative powers are vested in a council of nine members. The legislation is an adaptation of the commission plan, embodying many of the characteristic features of that system. Under its terms, city council consists of but one body of nine members as constitute the original intention being to give it a membership of from five to fifteen members according to the population. Councilmen receive a salary of six thousand, five hundred dollars annually. Members of council are elected at large. There was no change in the Executive Department under the operation of the new charter.

Governor John K. Tener nominated A. J. Kelly, Jr., D. P. Black, E. V. Babcock, Thomas Morrison, Dr. J. P. Kerr, John M. Goehring, Esq., Dr. S. S. Woodburn, William Glyde Wilkins and Enoch Rauh to be the first councilmen under the new order of things. Mr. Morrison declined to serve and William M. Hoveler was substituted and this new body was sworn in by Mayor W. A. Magee after a call to order by Edward J. Martin, clerk of council, June 11, 1911. John M. Goehring was elected president of the new body. The change in the size of the council number has been found to be very advantageous in a business way as much more time can be saved and greater results accomplished. The indifference of citizens generally to their duties as citizens has permitted the election of several undesirable members of this body since its institution but the measure has made for the good of the municipality.

Pittsburgh residents are very earnestly interested in improving the physical conditions of the city and to get them into general relation with accepted modern ideas of street and general superficial symmetry and beauty. This planning is the laying out of a city so as to provide means for easy intercourse, urban, suburban and inter-urban sections; more wholesome conditions surrounding the homes and working-people; development of railroad and railway facilities; river improvements and transportation; protection of citizens and property from fire, flood and ice; development of parks, playgrounds, and public squares; regulations of signs and billboards; establishment of public comfort stations, water supply distribution and sewerage systems; public fountains, widespread recreation and amusement facilities and other elements of communal life. The city planning commission has made strenuous efforts to procure these for the various sections of the city, as possible, but thus far only very ordinary results have been obtained. The city has furnished, in conjunction with other agencies, many comfort stations, but the general scope of the commission has not been filled. The commission has in its membership many of the foremost business men of the city who give freely of time and money.

The Homestead strike, July 6, 1892, was one of the most notable of the many startling events in the closing decade of the nineteenth century. Ostensibly the disagreement that caused the strike arose from an inability

ity to fix upon a satisfactory basis of wages between the authorities of the Carnegie Steel Company and the officers of the Amalgamated Association of Iron, Steel and Tin Workers of America. Henry Clay Frick was chairman of the Carnegie Board and M. H. Garland, President of the Association. Prior to the assault upon the Pinkerton "Army of Detectives" that had been employed to defend the Homestead works, futile efforts had been made by the workingmen to agree with the others to a minimum wage. Negotiations had been going on from early in January, recurring meetings taking place at which new propositions would be made or old ones retackled, but towards the end of June it became apparent that Mr. Frick aimed at dis-unionizing the mills and that was all that was objective with Mr. Frick. Later it was learned that Mr. Frick had consulted William H. McCleary, sheriff of Allegheny county with reference to having an adequate guard furnished to take charge of the mills in the event that the authorities would determine not to sign the labor scale and would elect to operate the works upon a non-union basis. Mr. McCleary, it is claimed, evaded the direct issue in this matter, although he visited the Homestead works to view the situation. The officials of the Carnegie Company had in the intervals of diplomacy, taken the precaution to enclose the whole space covered by the factories with a very high board fence, the way leading to their wharf at the Monongahela river being very strongly fenced in as well as wired in. Mr. Frick had also arranged for the arrival of three hundred Pinkertons in two model barges, equipped as refectories, dormitories and defensively for the local occupancy of the detectives during their stay at Homestead. Captain William B. Rodgers, owner of the towboats "Little Bill" and "Tide," was put in charge of bringing these men from Bellevue on the Ohio river to Homestead on the Monongahela river. The men had been gathered up in New York and Chicago, drilled, uniformed and equipped with Winchesters and revolvers. They were in general command of Captain F. H. Heinde, of Captain John W. Cooper of the New York and Philadelphia divisions and of Captain Charles Norton of the Chicago division. The "Tide" having become disabled on the way to Homestead the "Little Bill" took both boats in tow and went on up the river. Meantime, the defensive and exclusive preparations that had been made by the Carnegie authorities had alarmed the workingmen who had determined that the mills should not be operated by non-union men. They had been policing the exterior of the boarded-in works for days and had some of their men stationed all over Pittsburgh and Eastern Ohio watching the rivers and railroads for carload or boatload consignments of either Pinkertons or strike-breakers of any description. The Pinkertons arrived by special train at the landing place and at once went aboard the waiting barges and soon afterwards the boats were steaming up the Ohio river to the mouth of the Monongahela. When the boats were nearly under the Smithfield street bridge, a scout in the interests of the strikers saw them and ran to the telegraph office to wire his suspicions of the mysterious boats en route up stream. This telegram aroused the same suspicions in the breasts of those on guard at Homestead and when

the "Little Bill" rounded to at the wharf at the Carnegie Mills, the Captain of the boat and his associates found themselves confronted by several thousand strikers ready to treat with them to return or to fight them to a finish.

The mill men had become infuriated by the coming of the boat, but before this had torn down the boarded entrance, reinforced by coils of heavy barb-wire and were in full possession of the only entrance from the river to the works. Other apprisements of the approach of the boat had also reached the strikers one of these, a modern Paul Revere on horseback just before the arrival of the "Little Bill."

At first the strikers were in doubt about the personnel of those in the barges; the news that Mr. Frick had asked for many deputies had also reached them and they had heard of the probable coming of the Pinkertons. It was not until the uniforms of the Pinkertons had disclosed their identity that they knew whom they were to fight, if fight they must. The destruction of the closed-in entrance to the works was a surprise to those on the boat who had expected to make a secret entrance to the mills, and when they saw the conditions, they were sure that they were to have a hand-to-hand fight from the boat to the gates of the mills. When, therefore, Captains Heinde, Cooper and Norton placed themselves at the head of their men and started to go ashore the Homestead resistants urged them to go back or "we'll not answer for your lives." Crowd on the bank above the Pinkertons was composed of men and women, mothers, wives and sisters of the strikers, all armed and ready to fight. The men on the boats were armed with Winchesters and carried plenty of ammunition. They started up the bank because "Pinkerton men never retreated." A shot was fired, likely by a striker, and under the order to fire by Captain Norton, the Pinkerton men shot into the masses of people in their way from the boat to the mill. Several of the strikers struck by bullets fell sorely wounded. Then the strikers shot indiscriminately into the ranks of the Pinkertons and some of these went to the ground. Captain Heinde was wounded in the leg, J. W. Klein, another detective was mortally wounded, while other Pinkertons were more or less seriously hurt. Captain Rodgers detached his boat from the barges and steamed into the river. After the first volley the workingmen took refuge upon the bank and the Pinkertons sought the inside of the barges to save themselves. The strikers afterwards procured a cannon and bombarded the boat all day, in the meantime others with bullet carrying weapons of whatever description sniped at those within the barges until late in the evening when negotiations for a surrender were begun by the Pinkertons and later in the evening, after hoisting a white flag, they were allowed to leave the boat and the town. As they left the barges they were forced to pass through the ranks of the strikers who beat and belabored them with clubs, sticks and other weapons bruising and hurting them severely.

Thus ended the Homestead Battle. Sheriff McCleary convinced that no deputy sheriffs that he could assemble would be sufficient to overcome the forces of the strikers, wired the news of the day to the Governor

of Pennsylvania who immediately directed the assembling of the entire National Guard of Pennsylvania at Homestead and under the menace of this splendid body the strikers decided to abandon their investment of the mills and dispersed. The guard was on duty for some time and when it had gone the Carnegie mills thereafter were operated as non-union mills.

The reactions of the riot to the routine of the day were neither healthful nor creditable. Immediately upon the heels of the disturbance came a committee from Congress, made up of politicians who sought to submit as its report a paper that would make political capital and this design was disclosed in the nature of the questions asked Mr. Frick, some of the strikers, and others on the stand declining to reply to most of them. Two weeks after the riots Mr. Frick was shot in his office in Pittsburgh by Alexander Berkman, a Russian anarchist who was arrested, tried and sent to serve a long term in the penitentiary. The trials of a number of the rioters resulted either in acquittals or in mistrials.

The removal of the "Hump" that rises in Fifth avenue from Smithfield street to a point beyond Sixth avenue eastwardly and from Fourth avenue to a level near Sixth avenue northwardly was an undertaking that had three distinct undertakings from 1836 to 1912-13. The first cut of ten feet was authorized by Councils by an ordinance of March 26, 1836 which provided that "Grant street at the intersection of Fifth street shall be reduced ten feet below the top of the middle front door sill of St. Paul's Church; and from the intersection aforesaid, Grant street shall, when so reduced, be graded a uniform descent, northwardly, to the present grade of Seventh street, at the west end of the canal bridge, and from said intersection shall be graded a uniform descent, southwardly, to a point half way between Fourth and King streets; and Smithfield street, at its intersection at Fifth street, shall be raised four feet above the present surface, and from thence shall be graded a uniform descent, southwardly to Diamond alley, and northwardly a uniform grade to Virgin alley; and Fifth street shall be graded a uniform descent, westwardly from Grant to Smithfield street, and from the intersection thereof with Smithfield street, the grade shall be a uniform descent to Wood street; and the grade of Fifth street shall be continued eastwardly, 175 feet to an elevation four feet above the horizontal line, thence to Ross street, the grade shall have a uniform descent of 1 foot 6 inches perpendicular. Sixth street, Virgin alley, and Diamond alley shall each of them be graded from Grant street eastwardly 177½ feet at a uniform ascent of five inches in every 10 feet, and thence, at a uniform descent, 1.8 inches in every ten feet to Ross street.

This was the first reduction of the "Hump" but it was not accomplished for several years, the usual drawbacks of remonstrants and other obstacles intervening. The second cut, one of seven feet, was made in 1848, much of the debris being employed in the filling up and levelling of Smithfield street.

The third reduction was authorized by city ordinance of 1911 a councilmanic bond issue of \$270,000 was passed, which was later increased

by one of \$495,000, or an aggregate of \$765,000 for the reduction of the hill. Waivers of damages for change of grade were given by property holders along the line of the cut to a majority extent before the contract was awarded to Booth & Flinn for the work, April 5, 1912, the contract to be finished by January 1, 1914. The work was completed about two weeks before the contract limit expired. Summing up the extent of the cut, the former grade of Fifth avenue was seven and four tenths per cent between Smithfield & Grant streets, which was reduced to a grade of 4.8 per cent. The depth of the cut required was fourteen and nine tenth per cent at Grant and Fifth avenue, the maximum cut being at Fifth and Wylie avenues, 16.3 feet. Other cuts were of proportional lower figures. When the cuts were made, however, several streets were widened, Fifth avenue from Grant to Ross street; Virgin alley was widened from Grant street to Liberty avenue and its name changed, in honor of Henry W. Oliver from Virgin alley to Oliver avenue. Cherry alley was also widened from Fifth avenue to Sixth avenue; Grant (now Bigelow boulevard) was extended from Seventh avenue to Webster avenue.

In 1920-21 Second avenue was widened to a width of seventy feet from Grant street to Liberty avenue, while Ferry street has been widened from Liberty avenue to Water street. A new thoroughfare, to be known as the Boulevard of the Allies will be constructed from Grant street by way of the Monongahela bluffs to the Oakland district. The eastern terminus will likely be Schenley Park.

Two years ago, under joint city-county action it was arranged to bore twin tubes under Mt. Washington from West Liberty avenue in the South Hills, to a point above Seventh street above the Monongahela river. Rapid work has marked the progress of operations and within a year the intercourse between the city and the South Hills will be rapid and frequent. The tubes will accommodate electrical cars, vehicles and foot passengers in specially constructed roads operating in each direction.

Another city facility will be added when the boulevard will have been started and finished on the city front of Mt. Washington and adjacent hills, thus giving additional traffic facilities in a rapidly congesting district of the section south of the Monongahela river. The project of subwaying the main city and its North Side is resorted to frequently by city council but neither the plans nor the means for the execution have materialized. Within a few years the United States Government has begun and partially completed a series of liftable dams between the source and mouth of the Ohio river. These dams, when completed, will give incomparable facilities for the transportation of all heavy freights to and from Pittsburgh to all points in the South, the West and Northwest by means of the Ohio, Mississippi and Missouri rivers and their important tributaries.

Pittsburgh's connection with the American wars began in the middle of the eighteenth century, when its pioneers and earliest settlers were engaged against the incursive, murderous Indians, followed by individual contribution in the Braddock and Forbes expeditions, the Pontiac

War, the other Indian forays that intervened before the American Revolution, and a generous participation in that great struggle. Again when the War of 1812 was forced upon the United States there was a quick response to requests for both men and munitions, as was the case in the Mexican War. It was in the War of the Rebellion, however, that the real resources of the city were tested in their every element. By 1860 this city had become the most prominent manufacturing city in the United States and was rapidly approaching the more pretentious cities and manufacturing centers of Great Britain in their several specialties of production. This distinction imposed a responsibility upon Pittsburgh that might not be imposed in its fullness upon any other American city and manufacturing district, that of furnishing the bulk of war material for army use. This had been done from the earliest wars, but in the very nature of things but indifferently well. This responsibility was accepted and assumed and immediate response made to the requisitions that came of immediate necessities.

Another, a psychological reason, induced action, hearty action upon the part of both manufacturer and artisan. This reason was the consciousness that the principle involved in the Civil War was the determination of the status of American Labor, whether it should have a paramountcy of Slavery or an Aristocracy of free and untrammelled labor. President Lincoln's assertion that a country "half free and half slave" had awakened those that were free to the menace of slavery and both their hearts and their hands became immediately active in the struggle to make the whole Union free. The result of the war testifies to the ardor and sincerity of the effort that was made in behalf of "free labor."

The Spanish War, in turn, drew upon both the military and munition resources of Pittsburgh. The Eighteenth Regiment, Colonel Norman Smith, the Fourteenth Regiment, Colonel William M. Glenn (both infantry), and Battery B, Captain Alfred E. Hunt, of the National Guard of Pennsylvania, were quickly transferred to the active forces of the General Government and served throughout the short campaigns of that war. Besides there were many enlistments of local men. The tragic death of Friend W. Jenkins in the sinking of the warship "Maine" in Havana harbor in February, 1897, himself a native Pittsburgher, served to stir up great local indignation and aroused much hatred towards Spain. This crime and subsequent events gave Pittsburgh additional incentive to action.

Pittsburgh's part in the World War may be properly estimated by the following from the pen of one of our authors, and which has had previous publication:

Pittsburgh made victory possible in the World War. Pittsburgh was sending her munitions, missiles and materials to the out-numbered and beleaguered Allies years before the days of "Watchful Waiting" had waned or America had emerged from her "Pride" and got into the struggle for universal freedom. Without her materials in the early years of the war and without our troops in the last year of this war, the Allies would have been annihilated, the Hun would have triumphed and the nations of the earth would have been huddled under the victorious wings of the Black Eagle of Germany. Pittsburgh, from the outstart, was without the zone of academic address and rhetorical

rhodomontade, but very far within the zone of essential activities and one hundred per cent production. These were her trenches and within these she remained until the whistles upon the factories, mills and workshops that had turned out munitions and materials for the Allies, had shrieked the news of the Armistice, did she abate a jot or tittle of effort.

Pittsburgh's part in the World War was a principal part, beginning when the Hun turned his face westward to meet the resistance of civilization. This civilization turned, in its elements, from the German armory at Essen, the armory of the Autocrat to the armory of the democratic world, Pittsburgh, and patiently as possible awaited the issue. That cabled cry was heard by all American ears, but not by the American ear. Belgium was bleeding at every pore; France was paralyzed for a moment; England, despite her poise, tottered, and humanity held its breath. American manufacturers, Pittsburgh manufacturers, with no patience with the aphorismic attitude of their President and contemptuous of the proposition that a "people sometimes are too proud to fight" took on more hands and got up more and more steam and got out larger and more important products which were speeded to the Allies on every vessel and continued to furnish the sinews until "pride" was smothered and patriotism prompted national action, American action. It took some time to teach some potentialities that it was not a private fight, but a mixed fight, a World fight, that invited all classes of nations and people to determine certain principles out of which must come that democracy so long desired.

The sacrifices of the individual, the firm, the company, the corporation, the family in the recent struggle; the concessions made that no delay might ensue, the self-denials, the self effacements, the sufferings, the losses, the deprivations, all were notable and noble, and all were as nothing in the estimate that this community made of duty and of devotion to a common cause. It would be interesting and it would be instructive to write the stories of some of these sufferers into the local history, but there are so many of them, so many that would suffer by the discrimination that would have to be made in order to "glorify the few," that not mere casual mention may be made in this resume of general record.

One of the instances of pure patriotism was the promise of many employers to those of their employees who went to the front to reemploy them in case they should return. With few exceptions these promises have been religiously observed, especially by large employers of labor who remembered with gratitude the sacrifices that some of their best men made in giving up positions, in which they were immune from the draft, in order to tempt the supreme sacrifice on the field of battle.

Pittsburgh, besides her contributions of munitions, materials and men, contributed to the purchase of Liberty Bonds more than a billion dollars, with War Savings Stamps purchases running high into the millions of dollars, besides the untold millions that were expended in the various independent "drives" that were made with alarming and expensive frequency and in addition to the other vast sums that dribbled through willing fingers into even more willing hands for "thises and thats." It is true that Pittsburgh manufacturers and business men came out of the business side of the war to wander very far into the jungles of the "income tax," but it is just as true that these same men should be ranked among the saviours of the country, as well as the world. Because they received much, they gave much, gave it lovingly, willingly and freely.

The story of Pittsburgh's soldiers who went "over there" is an epic of glory, as is attested by its constellation of "gold stars" and its legions of wounded, maimed, injured. In this particular, Pittsburgh is merely in the ranks of sister cities and communities, the country wide. Her story is their story, her losses their losses, her griefs are their griefs, her glory their glory.

The history of this World War is yet unwritten; when it is written, Pittsburgh and her people will come into their own.

Pittsburgh women made possible the great results attained here in behalf of the war and their work was incessant and intelligent. It covered as large if not a larger area than mapped out by the men in their varied activities. This work began with, indeed, before the call was made for concentration of effort and was the last to cease, indeed, it is doubtful if effort is not still going on looking to the betterment of many conditions that the war uncovered. The organization was well-nigh perfect, beginning with the individual and rapidly and intelligently spreading to the whole community. These workers

differentiated their activities according to supply and demand, thus taking care of smaller and larger areas, as occasion required. No school district in the county was too small for their consideration and the county itself was never too large to tackle when the order was issued.

It would be unjust, as well as invidious to personify at large within the dimensions of this volume. Much of the gross work was done through the administrative agencies of the Young Women's Christian Association, the Red Cross, the Young Men's Christian Association, Council of National Defense, War Camp Community Service and smaller organizations, while other accomplishments were made by community bands and coöperative work throughout the city and county.

Red Cross activities were carried on upon the largest scale. The Pittsburgh Chapter, with its 400 sections, branches and auxiliaries and half million of members (which include 202,000 juniors, many of whom are school pupils), probably made the largest aggregate showing of all the organizations. The civilian relief department of the Young Men's Christian Association looked after 4,000 families of soldiers and sailors while the canteen corps served more than 15,000 service men of all classes at railway stations, hospitals and the various student training camps. The chapter made and sent out 4,753,660 surgical dressings in 1918; hospital sewed garments, 114,694; hospital supplies, bedding, etc., 475,870; knitted articles, 156,222; towels, 126,846; comfort kits, 24,000; woolen socks, 72,000 pairs.

Practical training of women in first aid work was one of the great objectives of this chapter with gratifying results. An idea of it may be obtained when it is known that 273 women were graduated in elementary hygiene, 430 in home nursing, and 900 in surgical dressing. Splints and crutches were also made by members of the Junior Red Cross.

Group work was responsible for much of the aggregate of returns, the chapter conceiving the idea that this method would stimulate a healthy competition and in this "sign they won." Sewickley, Crafton, East Liberty, Dormont, Carrick, Mt. Lebanon, in a word, the communities of the county engaged in a great contest which was prolific of splendid results. Mrs. W. Harry Brown had a large building in the East End in which her "Preparedness" organization was in motion some time before 1917 in making dressings and other articles for emergent use. McKeesport, in its various wartime enterprises also came to the front at all times and upon, and, just as often, without requisition. Mrs. William R. Evans, Mrs. Annie Duff, Mrs. E. V. Car, others and other Crafton ladies were "on the job," early and late. The Congress of Clubs in its various branches, was also a factor of usefulness at all times.

Sewickley had almost every woman within its boundaries at work throughout the war, because no other borough was more splendidly represented in the rank and file of the army "over there;" this fact being one incentive, the other the concrete patriotism of that fine town, always in evidence.

The Schenley Farms auxiliary was another strong contributing agency throughout the many months of local activities and its sum total of contributions is one to be proud of. The Twentieth Century Club, always in action in behalf of humanity, always patriotic, always intelligent in its efforts to better people and affairs, fairly outdid itself in its manifold activities day by day. Pittsburgh's churches, of all denominations, assumed their burdens immediately the United States entered the war. Many members of these churches were identified with other organizations, but this circumstance only stimulated them to greater and more assiduous work in their several relations.

Miss Ella G. Maloney, chairman of the parochial schools committee, enrolled more than 2,000 boys and girls in the work of the war and in selling war savings stamps, disposing of \$780,000 in the latter.

The Jewish women were vigorously at work from the beginning. The war had a sinister meaning to many of these because of the fact that many of their kin in the countries at war were unwilling participants in the struggle against freedom.

The Council of National Defense, Mrs. Clarence Renshaw chairman, was another unwearied agency in the activities of city and county as were many other minors, but no less sincere and industrious organizations.

Food conservation was near the hearts, because it was near the homes of many of those most active in war work and very gratifying results came of the country-wide

effort made along this line. It is a story that will come of the lore of the war, one day and it will be full of interest.

The efforts of the women of Allegheny county in behalf of the successes of the five Liberty Loan issues, were as dramatic as they were industrious. The quintet of successes came in very large measure of these feminine forces at work in every district in Allegheny county. They won where men failed, not merely because of their sex but rather because of their poignant belief that unless the money was forthcoming, the war was lost and with it the freedom of the world.

The great parade in May, 1918, through the streets of the Greater Pittsburgh was a pageant of unexampled beauty as well as of expression, the floats, banners, flags and other visibilities, showing the feelings of a city that had suffered much and had given much. This parade was distinctive in everything that the war meant, physically and psychologically to this city and it will be remembered until its last spectator has joined the ranks of those who went before.

It is most unfortunate that a concrete reproduction of the great work done in behalf of "world freedom" cannot be given herein in all of its patriotic, historic, dramatic and unselfish fullness and worth. But, it is not possible, because it is cyclopediac in content and value, and allusion, and that not all-inclusive, only, is possible.

The War Gardens, in which so many earnest, eager, patriotic little children bared their heads to the sun and rain, that they might count in the grand footing; the work in so many fields by those Boy Scouts, work of love, of honor of juvenile gentlemen; the mite of the widow, the dole of the orphan, the offering of the poverty stricken; the sacrifice of men, women and children alike, all were in visible, concrete evidence, each a credit to head, hand and heart, all freely laid on the altar of effort which is the altar of freedom.

The stories of the War Camp Community Service, in which Mrs. Grace W. Warmcastle, Mrs. Charles W. Houston, Mrs. C. D. Church, Mrs. George N. Jenks, Mrs. Bortz, Mrs. G. B. Sweeney, Mrs. Julian Kennedy, Mrs. C. B. Cole, Mrs. Disque, Mrs. DuBarry and others were conspicuous, is another fine record of service.

The "Hole-in-the-Wall," an improvised den in old City Hall, in Smithfield street, was a Suffrage Service Hut in which service boys were received and entertained in the late days of the war.

Pittsburgh stands out isolate and alone of all American cities in the generous and patriotic services rendered to her country and to the winning of the World War. Men, money, materials of every conceivable nature, munitions, weapons, clothing specialties requisite for fields, camp, trench and marching duties, and in many other instances things not found in any other cities, were sent forward to the objectives indicated while, quietly and without divulging the circumstances or the nature of preparation or despatch, valuable goods of many natures were sent to camps and to the depots across the ocean at frequent intervals.

The surrender of workshops, mills, factories and other plants to the use of the Government was not less cheerful than the contributions of men, women, children, firms, families, corporations and other organizations to the five Liberty Loan Bond issues authorized by the authorities and deemed necessary for the purposes of carrying on the work of the war. In this work the abilities, activities and resources of the entire county were cheerfully enlisted, from those of the "Four-Minute-Men" to those of bank presidents, manufacturers, merchants, mothers, sons, daughters, indeed, no one affected indifference or indolence to the work or its importance.

Early in the summer of 1917 work was begun on the subscription to the first Loan, \$59,300,000, under the general chairmanship of Henry C. McEldowney, president of the Union Trust Company, and thereafter for six weeks, unwearied work was done by the citizenry of the county. Patriotic meetings, attended by thousands, were held everywhere, in cities, towns, villages, hamlets and in country churches and school houses and, not since the days of the Civil War, were the perils to country and civilization so eloquently pictured. James Francis Burke summed the situation in these words—"If the American people hesitate to give their hearty support to the Government now, they will pay the price in the lives of their boys and in the destruction of billions of their wealth in the near future."

"With the lessons of Belgium, France, Russia and England before us, can we be so helplessly stupid as to hesitate?"

Suffice to say that in the first drive, as in the others which followed, the workers were kept on edge by advice of this kind and large subscriptions began pouring in from all sides after the campaign began to warm up. One of the first was the Crucible Steel Company for its stockholders and employees. This company took out \$1,000,000 worth of the securities. Others followed in rapid succession, and soon the Pittsburgh district was being flooded with money to help Uncle Sam force his way to victory overseas.

In the second Loan drive, Allegheny county was given a quota of \$85,159.900 and it responded heartily to the new appeal for aid. It is needless to go into details as to how the coffers of the nation were supplied from this district, but when the final totals were obtained the county gave \$146,030,400, and cash sales of \$1,092,700, or passed the quota again by \$60,829,500.

These figures were announced as final by the Federal Reserve Bank. Pittsburgh's quota for the second drive was set at \$76,474,450 and the city itself gave \$132,514,000 in subscriptions and \$849,400 in cash sales, passing its quota by \$56,872,950.

Pittsburgh's quota in the third Loan was set at \$72,313,250, that for the entire county of Allegheny was set at \$81,613,850. A tremendous drive to sell Liberty Bonds in Pittsburgh district was launched by the Boy Scouts and in the high schools. Fully 15,000 scouts and students participated in the movement and they set their minimum quota at \$3,000,000. It was not long before the young workers passed this, and spurred on with the success of their efforts they drove ahead with a surplus of nearly \$1,000,000 when the campaign was brought to a close.

FIVE LIBERTY LOAN DRIVES.

First Loan—	
Quota	\$59,300,000
Subscription	\$84,258,300
Second Loan—	
Quota	\$85,159,900
Subscription	\$146,030,400
Third Loan—	
Quota	\$81,613,750
Subscription	\$95,094,050
Fourth Loan—	
Quota	\$163,452,750
Subscription	\$178,599,050
Fifth Loan—	
Quota	\$117,195,350
Subscription	\$117,210,350

Women and girls were among the first to get into the making of munitions in the manufacturing plants of Pittsburgh, thousands of them working night and day in order to hurry the vast numbers of orders that came, in the first instance from the Entente Allies and later from the armies of the United States in foreign service. Patriotism was the earliest impulse of these loyal women but the operators of the plants paid generous wages for the work done and in this way many worthy women were enabled to take care of dependents and, at the same time to lay away comfortable sums for future requisites. Many of these workwomen invested their savings in the issues of the Government, taking bonds and thrift stamps as rapidly as they came from the respective departments.

Mrs. Franklin P. Iams, chairman of Department of Women in Industry of the Allegheny County Division, Council of National Defense, Women's Division, appointed Miss Esther Smith, Executive Secretary for the Collegiate Vocational Bureau; Mrs. Ray Van Baalen, Executive Secretary of the Employment Bureau of the Council of Jewish Women; Mrs. John H. Bricker, President Consumers' League of Western Pennsylvania; Miss Laura D. Redick, later became president of this league and was made a member of the committee; Miss Mary E. Bakewell, board member of Mothers' Assistance Fund; Miss Mary Gray, Head of Employment Department, Young Women's Christian Association; Miss Grace L. Coyle, Head of the Industrial Department, Young Men's Christian Association; Miss Marguerite Spillman, Executive Secretary of the

local branch of the National League of Women Workers; Miss Lillian Dermitt, Executive Secretary of Patriotic League; Mrs. T. M. Molamphy, Executive Secretary of the Catholic Women's League; Mrs. Gertrude Breslau Fuller, a Trade Unionist and a member of the board of the American Alliance for Labor Democracy.

This department was officially opened as a joint office of the Women's Branch Council of National Defense and the Public Safety Committee, later the Men's Branch of the Council of National Defense, coöperating with the State Department of Labor and Industry, which received \$300 monthly from the Public Safety Committee, February 1.

Mrs. Iams, who had been commissioned by the State Department of Labor and Industry to investigate conditions in various manufacturing plants in the Pittsburgh region attended to this work, although Mrs. Van Baalen, especially in charge of this work, most efficiently looked after it and was able to accomplish many meliorations.

Mrs. Iams made many visits to the Westinghouse plants in which much of the munition work in this region was done and was able to better working conditions through the cordial coöperation of the officials. Francis Feehan, District Superintendent of the Department of Labor, was also a willing worker in the cause.

The activities of this committee in its several elements were intelligent and incessant; by reason of which the women and girls employed were properly quartered, when it was necessary, in the vicinity of their work whereby much time was saved to the plants and much money to the workers. Homes, not theretofore opened to the comfort and convenience of transient roomers, were, in the stress of necessity and in the concurring spirit of patriotism, placed at the call of this committee in Swissvale and other suburbs, thus providing unparalleled conveniences for all worthy workers.

A striking feature of one of the parades in a Liberty Loan drive was the presence of more than 2,000 of these girls in their factory uniforms in floats provided by factory management.

Later on at the instance of the officials of the Federal Employment Service this branch became the nucleus for a Woman's Branch of this service. Mrs. Iams became the head of this organization with headquarters in the Oliver Building (one of the Dollar a Year Employees) with Miss Esther Smith as associate, Mrs. Van Baalen as head of Field Service; Miss Bess Jamison in charge of the Industrial Department; Clerical Department, Miss Nell Teplitz and Mrs. Dorothy Armstrong, in charge; Miss Mary Gray, head of the Household Department; Miss Sara Troutmann, was most efficiently in charge of the Information Bureau with a corps of eighteen women under salary.

Pittsburgh's Chamber of Commerce, composed as it is, of all elements of local affairs, its membership embracing more than five thousand of the city and county's most prominent and influential business man of all classes, was behind the Liberty Loan drives as one man and no more splendid results of concentrated effort have ever been found as a footing to the sheet that showed the sum total of the work done by this concrete organization.

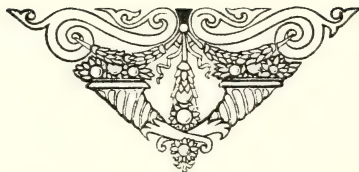
The various measures for the relief of war sufferers in Europe found in Pittsburgh a prompt response, and all of these centered about the work in the Chamber of Commerce. It was in the rooms of the Chamber that the Pittsburgh Chapter of the American Red Cross was formed. A Director of the Chamber, J. Rogers Flannery, was elected its first president. Among the directors of the Red Cross Chapter, Robert Garland, was president of the Chamber, Frank J. Lanahan and John McLeod were active in the Chamber directory; also, E. A. Woods, another director in the Red Cross Chapter, at the same time was identified in all of the wartime activities of the Chamber of Commerce.

In 1916-17 weekly luncheons of the Chamber were held in the Fort Pitt Hotel, and there the largest majority of the speakers discussed patriotic topics. One of the notable addresses was that made by Hon. Wesley Frost, United States Consul at Queenstown, Ireland, who described to one of the largest audiences ever gathered at a Chamber function the tragic story of the sinking of the Lusitania, and how grief throughout the world for the innocent victims spelled the doom of the German perpetrators.

On another occasion, at a weekly luncheon, George R. Wallace, Esq., delivered an historical address describing the traditions and growth of Prussianism. This address was published by the Chamber of Commerce in a pamphlet which was given circulation throughout the country.

The facilities of the Chamber of Commerce were offered to every enterprise undertaken for war relief or for spreading the propanganda of preparedness. Various organizations, including the National Security League, the Women's Division of National Preparedness and many patriotic bodies, availed themselves of the opportunity for gatherings in the Chamber.

In May, 1917, within a few weeks after the United States entered the war, the Chamber took up its quarters in the new building, thus affording ample facilities for carrying on all features of the work in coöperation with the government.



CHAPTER II.

The Cities of Allegheny County.

McKeesport—In the heart of the Greater Pittsburgh industrial district is McKeesport, a city of the third class, under a commission form of government consisting of a mayor and four members. It is located about fourteen miles from Pittsburgh at the confluence of the Monongahela and Youghiogheny rivers, with a population of 48,299 souls, covering an area of 8,640 acres and divided into eleven wards.

The first known permanent resident, though it is impossible to locate the exact location of her lodge was Queen Aliquippa, the queen of a friendly Delaware tribe of Indians, who selected the spot now known as McKeesport for her seat of government. She witnessed Braddock's army ford the Monongahela; as she viewed in wonder the gold uniforms and glistening accoutrements of the English soldiers, she became incensed, claiming that due homage had not been shown her by that august body.

The pioneer of McKeesport, David McKee, about the beginning of the eighteenth century removed with his family from Scotland to the North of Ireland, settling near Londonderry. He was a Presbyterian, therefore was persecuted, and about the middle of the century sought a new home in America. He in company with others of the same religious sect settled near Philadelphia, in the province of Pennsylvania, but in the year 1756 he crossed the Allegheny Mountains, arrived at the confluence of the Monongahela and Youghiogheny rivers, and receiving the protection of the celebrated queen of the Delaware Indians, already mentioned, he built himself a log cabin and became the first white resident of that region, at that time an extensive marsh or swamp. The country round about was quaking with war and the recognized law of the land was only that of might. Here this adventurous white man established his home; with the Scotch-Irish energy of his ancestors, he cleared enough of the dense tangle of the swampy forests to operate a farm, and with the natural thrift of his native land he established a skiff ferry, connecting his location with the opposite sides of the Monongahela and Youghiogheny rivers, for which he obtained a charter in 1769. This pioneer settler of McKeesport died October 11, 1795, being then aged eighty-five years. Of his three sons, John, the eldest, retained the old homestead, became the owner of the ferry, and founder of McKees Port, afterwards the borough and now the city of McKeesport. At the time of his father's death, John McKee was forty-nine years of age, a man of fine presence, much energy, and of infinite resources of mind and body. In business undertakings he had been very successful, ranking as one of the wealthiest men in Western Pennsylvania. Subsequent to the Whiskey Insurrection his affairs became involved and he suffered severe losses. In the year 1795, he plotted the lands bounded by the Monongahela and Youghiogheny rivers and what is now Ninth and Walnut streets into upwards of two hundred lots, sixty feet front and one hun-

dred and forty feet deep, each lot fronting a street and running back to an alley. The two principal streets, Market and Fourth, were eighty feet wide, the others sixty feet, and in the center of the town a large area was left for a market house; two lots each for churches and school houses were set aside. To dispose of the remainder of the lots Mr. McKee adopted a novel plan, something on the order of a lottery. The price of the lots was set at twenty dollars, the purchaser paying ten dollars, received a ticket numbered, and at the drawing he received a deed by payment of another ten dollars; if dissatisfied with the lot drawn, the owner of the ticket forfeited his ten dollars. The new town was formally christened McKeesport in November, 1795. The lottery disposed of many lots, many of the original purchasers abandoned them, the taxes were charged against them, and in 1834 a general clearing-up sale was held, about one-half of the lottery lots were sold under the hammer for the delinquent taxes at the average of less than ten dollars a lot, but despite these apparent reverses, McKeesport prospered and grew.

Among the first comers to this embryo city was William Cavin, who arrived in 1807, bringing with him a cow. He married a daughter of Colonel William Loughhead, a veteran of the War of 1812, who kept a general store on Third street near Walnut street. In the neighborhood of this location James Penney in 1815 was engaged as a storekeeper and cooper. He came from the New Jersey settlement near Monongahela City, and married a sister of Colonel Jesse Sill, also a member of the State militia and a participant in the War of 1812. In the year 1821, Joseph Wampler located in the town and became widely known as a manufacturer of fine telescopes. John Harrison, a blacksmith and farmer, came in 1824, and six years later he became the pioneer coal merchant, when he opened the first coal pit in the vicinity. Among others that caught the coal fever was Samuel Dickey, a carpenter, who resided on the southwestern corner of Third street and Blackberry alley. One of the prominent buildings of these times was the Black Horse Tavern on Water street, near Second street. The genial host was James Alexander, who was also a saddler by trade.

In the year 1830, McKeesport consisted of about eighteen houses, one church, and one small steam grist and saw mill. Besides the residents already mentioned, the citizens were John Baker, a tavern keeper; Jacob Baker, a blacksmith; John Behan, an English pensioner; John H. Boughman, a surveyor, bricklayer and stone mason; James Evans, a justice of the peace; Emanuel Hirst, a gardener; Samuel Hunter, coal merchant; George E. Huey, physician; Henry Jamison, cooper; Robert Lowry, kept a general store on the southeast corner of Market and Third streets; James McVay, a tailor; Samuel M. Ross, another tavern keeper on the corner of Second street and Mulberry alley; Hugh Rowland, carried on a general store and a carding and fulling mill on the west side of Market street between First and Second streets; Andrew Soles' general store was on the north side of Second street, between Mulberry and Strawberry alleys; Daniel Stone was a laborer and John Young a wheelwright. The only brick dwelling in the town was owned by Dr. Huey, and the

single frame dwelling was occupied by Andrew Soles. All the other buildings were of logs. McKeesport was, however, favorably known by the people around the settlement for reviews held there by the State militia, and for the splendid facilities furnished for horse racing, which was inaugurated there as early as 1800.

The little town showed a substantial growth, was made a borough by the court, September 3, 1842. At an election three days later, Captain James R. Hendrickson was chosen burgess; James W. Edgar, Hiram B. Sinclair, Hugh Rowland, Charles Fausold and Samuel C. Huey, town council; John Long, constable; William Penney and John Walker, overseers of the poor. The first meeting of the council was held September 13, 1842, and the following appointments were made: Perry Baker, clerk; James Penney, treasurer; John Cook, assessor and collector of taxes; William Cook, street commissioner; Samuel C. Huey and Hugh Rowland, a committee to draft ordinances and by-laws. Meetings of the council were to be held quarterly and absent members were fined twenty-five cents. Prior to the organization of the borough, the voters of McKeesport were required to journey to what was known as the White House, on the Pittsburgh and Greensburg pike, four miles from the village, to exercise the right of suffrage. On the incorporation of the borough, elections were held in a schoolhouse on the Diamond, which was in 1849 removed to a lot adjoining the Presbyterian parsonage, where elections continued until the erection of the first brick schoolhouse in the present First Ward, but on the extension of the boundaries of the borough, May 24, 1873, it was divided by the legislature into three wards.

The prominent industry of the infant borough was the coal business. The first for shipment was mined by Samuel Dickey, the coal being brought out of the pit in wheelbarrows, transported to the river in an oxcart, and loaded into flats. At first no coal was shipped below Pittsburgh, but early in the thirties the trade was extended to Cincinnati and Louisville. The first boats were called French Creeks, named for the creek on which they were built. They were seventy to seventy-five feet long, fourteen to sixteen feet wide, and loaded to draw from two to three feet of water. The coal business grew until there were nine mines in operation, and over one hundred coal boat pilots lived in and near the town. The boats were manned by a crew numbering from ten to fifteen men, who guided the boats with long bars or sweeps, as they floated down the river. This industry gave way in 1855 to the towing of the coal boats by steamboats, which gradually ceased, and by 1865 it was a discarded industry. In early coal mining the miners used a kind of a harness with which they hitched themselves to a cart to draw the black diamonds to the mouth of the pit. Dogs were afterwards introduced to perform this labor, and in 1840 horses were first employed. The Monongahela river prior to 1841 was only navigable a portion of the year, but the erection of locks and dams did away with this difficulty. Steamboats made occasional trips as early as 1830. The Youghiogheny was made navigable by locks and dams in 1850, when steamers ran from Pittsburgh to West Newton until 1857, when the dams were destroyed in conse-

quence of an ice gorge and were never rebuilt. The freight and passenger business was confined to the waterways until the Pittsburgh & Connellsville (now the Baltimore & Ohio) railroad was opened. The demand for skiffs and flat boats in 1834 or thereabouts, caused Captain James Taylor and his brother Gaskill to build skiffs in a shop at the foot of Blackberry alley. Flatboats were also built on the banks of the Monongahela and Youghiogheny rivers, and the coal trade was supplied with barges from the shipyards of John Shoup and Company at Riverton. The first Pittsburgh dry dock was built by Cook & Fenton in 1836 at their yard on the Monongahela river, where a number of steamboat hulls were constructed. Steamboat building was carried on extensively opposite the foot of Third street on the Youghiogheny river, by Captain Benjamin Coursin, William Cohan and Isaac Hammett; many of the finest and fastest steamers that plied the western waters were built at these yards.

The completion of the Pittsburgh & Connellsville railroad, which was built through the town in 1857 and was soon connected with the Pennsylvania railroad at Brinton, gave an added impetuosity to the progress of the striving borough. The Pittsburgh & Connellsville road was soon completed to Pittsburgh, the borough having subscribed to \$100,000 worth of bonds as early as 1854. The borough council afterwards repudiated these bonds, and for a number of years nothing was heard from them, but judgments were obtained against the borough for upwards of \$100,000, which was liquidated by the borough issuing thirty years bonds. This indebtedness could have been wiped out at one time by the payment of \$15,000. The Baltimore & Ohio railroad absorbed the Pittsburgh & Connellsville line. Four trunk line systems now intersect the city,—the Baltimore & Ohio, the Pennsylvania system, the New York Central, and the Pittsburgh & Lake Erie. The traction system within the city is operated by the West Penn Railway Company. The Pittsburgh Railway Company have three different lines between that city and McKeesport, while auto-buses operate on the west bank of the Monongahela river. A post office was established in McKeesport, February 27, 1827; letter carriers were introduced April 2, 1888, when the force consisted of four men. The water supply of the city is taken from the Youghiogheny river, the pumping station and filtration plant owned by the city and valued at \$1,000,000, and more than self-sustaining. The McKeesport Gas Company was organized August 11, 1870; the first illuminating gas was made in December that year, the streets being first lighted with gas on the twelfth of that month. Natural gas was introduced in 1885 by the organization of the Union Gas Company to supply gas for domestic use. The Western Union Telegraph Company opened its first office in the borough in 1865; the Bell Telephone was introduced for public use in 1883, the Long Distance Telephone Company extending its lines to the city in 1894.

Forty-seven years after the laying out of McKeesport by John McKee, it was formally chartered as a borough, and in 1890, having outgrown the swaddlings of a borough, was incorporated as a city of the

third class. The entire police force in 1871 consisted of one man, which has been increased to a force of fifty men, under a chief of police. Steps were taken in 1873 to improve the character of fire fighting by the formation of a volunteer company, known as the Eagle Fire Company. A paid fire department was organized in July, 1885, consisting of one man who had charge of a hook and ladder truck, otherwise depending upon volunteer help. The fire department was increased January 3, 1887, to four men. Horses as a motive power were introduced in 1886, and a fire alarm telegraph system established in 1887. The city now has four fire stations, well equipped, with a paid force of a chief and thirty-four men. The water is from gravity pressure, the city reservoirs being at sufficient elevation to force the water to all parts of the city. Permanent street paving was introduced in 1867 by the macadamizing of Fifth street from Market street; this was followed by the improvement of other streets, and the first block stone pavement was laid on Fourth street in 1883. Huey street was the first to be paved with fire brick. Twenty-six and a half miles of the city's streets are now paved with vitrified brick, five and a half miles with Belgian block; nearly all the streets are sewerd, which was introduced in 1878. The principal thoroughfares are illuminated by an electric light system.

The McKeesport Hospital is picturesquely situated on an eminent promontory on Fifth avenue, and represents an investment of \$200,000, its capacity being 250 patients. The Carnegie Free Library received a valuable donation from Andrew Carnegie, thus placing it on a permanent foundation. The organization of the McKeesport Literary Association, February 17, 1875, was the first attempt to establish a free library. This institution received a charter in April, 1875, but it did not prove a success, and a committee was appointed to sell the books and furniture. It was, however, saved from this disgrace by R. G. Wood, who liquidated the indebtedness, and a permanent organization was effected, rooms being secured in the National Bank of McKeesport building. The library was sustained for several years through the liberality of Richard G. Wood and James Evans, and formed the nucleus of the present Carnegie Library. The Young Men's Christian Association has a substantial three-story building where its varied activities are carried on.

The earliest industry of McKeesport consisted of a tanyard established by Samuel Culbertson in 1802, at the rear of a lot on what is now Shaw avenue. About 1820 James Evans manufactured wool hats and operated a small distillery. A carding and fulling mill was established in 1826 by Hugh Rowland on what is now Second street; the power was a tramp-wheel rotated by horse-power. Mr. Rowland sold out in 1838 to Robert McMillen, who substituted steam as the motive power, and added to the industry the weaving of cloth and installed a lathe for turning chair stock, etc. A grist and saw mill was erected in 1829 by John Behan on the northeast corner of Second street and Blackberry alley. Three years later, John Gray and Isaac Snodgrass built a saw mill near the Monongahela river, and in 1845, Ward & Wilson built a mill on the Youghiogheny river. Among those engaged in this industry was Ki-

zenbaugh & Company; their mill was twice destroyed by fire. John Bridenthal built a mill on the Youghiogheny river in 1855. Edward Fisher established a saw mill near the mouth of Crooked Run in 1866. A grist mill was erected by Coon Ludwick in 1856, at the foot of Mulberry alley, which was destroyed by fire in 1869. Near the Baltimore & Ohio railroad station, Brew & Davis in 1883 built a grist mill, which was afterwards known as the City Milling Company; it was destroyed by fire December 9, 1887. A grist mill erected by Noah Hamilton at the corner of Second avenue and Blackberry alley, built in 1872, shared the same fate. The original McKeesport planing mill was erected in 1867-68 on the corner of Third and Walnut streets by Neil & Wampler. This mill was destroyed by fire, October 11, 1891, and the firm purchased the Youghiogheny Mills, and the business is still continued by the McKeesport Planing Mills Company. The Youghiogheny Mills mentioned above were erected in 1855, close to the Baltimore & Ohio railroad, near Twelfth street, by J. B. Shale, who sold to Patterson & Morgan, and they in turn to David Stratton, who disposed of the mill as stated above to Neil & Wampler. Stratton afterwards erected a new mill on Tenth street. Others engaged in planning mill activities were Rankin & Kline, whose works were destroyed by fire in 1874. Rankin, Wampler & Gemmill established a mill at the foot of Martin street in 1872, which was afterwards purchased by the Diamond Lumber Company, long since out of existence.

The tanning industry is a lost art in McKeesport. The original tanner sold out in 1826 to Robert Shaw. Samuel C. Huey built a tannery near the corner of what is now Fifth avenue and Huey street, but the industry has long since been suspended. Brick making was somewhat of an industry in the early days and is still an active business. Among the extinct industries is John Stillwell's windmills; the band box factory of Noble D. Lovejoy; the foundry established in 1847 by John Tuck; also the Enterprise Foundry of Shankland & Stevenson, which was a total loss by fire, October 3, 1877. A foundry was built in 1878 by R. J. May & Company; another was erected in 1885 by Penney & Millholl, who were succeeded by John T. Penney & Company, which was the foundation of the McKeesport Machine Company, now out of existence. An oil refinery located on Crooked Run did not prove a success; also a soap factory was a failure. McKeesport's only glass works were built in 1868, continued in business for several years, but the plant was finally sold at sheriff's sale. The Russell Manufacturing Company was organized in 1886 and manufactured brass goods, plates for tintypes, etc., but ceased operations in 1891.

The first manufacturing industry of any great importance was the iron works known as Wood's Mill, which was erected in 1851 on the corner of Walnut and Wood streets. It was built by W. Dewees Wood, and after several changes of partnership became an incorporated company under the style name of the W. Dewees Wood Company. The first mill was a small affair, covering about an acre of land, employing about thirty-five men. The acreage was afterwards increased to nine acres,

employment being given to one thousand men, the works producing an annual product of 20,000 tons of finished material which took the place of Russia sheet iron. This industry was amalgamated with The American Sheet and Tin Plate Company, a constituent of the United States Steel Corporation.

In recent years there has been an enormous growth in the market for tubular goods. To meet this demand a quality of weldable steel has been developed, which has not only met modern requirements but has broadened the field of use for tubes and pipes. The metal used in the manufacture of welded pipe must be firm and easy to weld, and able to take a good thread without difficulty, be soft and easy to manipulate, and have the maximum strength possible consistent with other qualities. Iron possesses these qualifications in a greater or less degree, depending on its composition and treatment. Wrought iron made by the puddling process was at one time the only material available, but early in the nineties of the last century it was largely superseded by a purer grade of iron refined by the Bessemer process, usually classed as soft steel.

Although steel started to displace wrought iron in most engineering construction after the introduction of the Bessemer process, it was not until about 1887 that the National Tube Company made the first steel pipe, in manufacturing of which from time to time marked improvements have been made. This company located in McKeesport in 1872, purchasing for their original plant the old rope walk of Fulton, Bollman & Company (who removed to Elizabeth, New Jersey), which was erected by that firm in 1862 on grounds fronting on Walnut street and running down Fourth street to Huey street, the building proper being something like fifteen hundred feet long. The National Tube Company completed their mill and commenced operations at once, but the main portion of the building was destroyed by fire April 9, 1873. This was rebuilt, and operations were again commenced, September 1, that year. The butt-weld addition was added in 1874, which was also destroyed by fire in June, 1876. The growth of this industry is justly classified as one of the wonders of Western Pennsylvania. It is one of the largest industrial establishments in the country, and the largest tube works in the world. The plant covers an acreage of sixty-five acres, about fifty of which are under roof, and eighteen miles of railway are necessary to distribute the material about the works and to remove the output for shipment.

In the modern process, the pig iron as tapped from the blast furnace is conveyed in ear ladles to the mixer. This is a brick-lined vessel in which three hundred tons of molten pig iron can be stored and mixed by gentle agitation, the object being to supply a uniform metal for the steel-works. The converter, a large pear shaped vessel, is revolved on horizontal trunnions. Air is forced through nozzles arranged in the bottom, then ten tons of the molten crude iron is poured from the mixer to the converter. The blast is then started, the converter is revolved into an upright position, and the blowing of the heat commences. Silicon and manganese are first attached, their oxidation adding considerable heat

to the bath. The carbon soon begins to oxidize rapidly, the products passing off in a bright flame from the mouth of the converter, increasing in brilliancy as the reaction becomes stronger. The bath of metal is now several hundred degrees hotter than the crude iron at the start. The thin liquid metal is passed into a ladle, a small amount of ferro-manganese is added, and a special treatment given to remove excess of gases and bring the metal into the best condition for welding. The most remarkable characteristic of steel is the ease with which its properties can be regulated and adapted to special needs. The simple composition of pipe steel makes it comparatively easy to control the manufacture and maintain uniform quality, especially when a mill is running on this material exclusively, which is the practice of the National Tube Company Steel Works.

In the manufacture of wrought pipe, the butt-weld or lap-weld process is used. The former consists in heating the plate in a long furnace to a welding heat throughout; then it is drawn through a bell-shaped ring whereby the edges of the plate are forced together and welded. The pipe then passes through suitable rolls, which give the correct outside diameter, and is finished by cross rolling. This strengthens the pipe, and at the same time gives the surface a clean finish. Leaving the cross rolls, the pipes pass on to an enclosed cooling table up which they are rolled to the conveyors. When the pipe becomes cold the ends are threaded if necessary and it is tested. The lap-weld process consists of two operations; the plate is brought to a red heat in a suitable furnace and then passed through a set of rolls which bevel the edges so that when overlapped and welded the seam will be neat and smooth. It then passes to the bending machine, where it takes roughly the cylindrical shape of a pipe with the two edges overlapping. In this form it is again heated, and the skelp is pushed out of the opposite end of the furnace into the welding rolls, which have a semi-circular groove corresponding to the size of the pipe being made. A cast iron mandrel held in position between the welding rolls by a stout rod, serves to support the inside of the pipe as it is carried through. This ball or mandrel is shaped like a projectile, and the pipe slides over it on being drawn through the rolls. Thus every portion of the lapped edge is subjected to a compression between the ball on the inside and the rolls on the outside, which reduces the lap to the same thickness as the rest of the pipe and welds the overlapping portions solidly together. Then follows the welding rolls, the sizing rolls, the straightening rolls, and the cooling tables. The mills of the National Tube Company are thoroughly equipped so as to be entirely independent of outside interests for their supply of steel. The first officers of this organization were J. C. Converse, president; W. S. Eaton, treasurer; J. H. Flagler, general manager; and P. W. French, secretary. Subordinate plants are maintained in other sections of the country, and branch offices in the leading cities of the Nation as well as in foreign lands.

McKeesport prides itself in having in its vicinity the pioneer tin plate works in the United States. A little rolling mill was located on what

was known as the Mehaffy farm in 1873-74. In the same year McKeesport (consisting of about three thousand inhabitants) borough boundaries were extended so that the new northern border boundary was nearly identical with the northern limits of the works, and that portion of the borough became known as the lower Third Ward, or Demmler Station. On account of the distance from the center of the city, a special post office was established at the works, which was named Demmler in honor of the president of the company, J. H. Demmler. The United States Iron and Tin Plate Company was chartered in March, 1873, but before the works could be completed the panic of that year broke out, which with other adversities interfered and the works were not placed in operation until August, 1874. Foreign competition was another serious trouble; the scale of low wages in England and Wales and inadequate protection from the government forced the stoppage of the manufacture of tin and terne plates, and at a considerable expense the works were reconstructed for the manufacture of fine sheet iron and steel. The company was reorganized in 1882, and the following February by a destructive fire the company suffered a serious loss; three months later the plant was again in active operation. With the passage of the McKinley Tariff Bill the manufacture of tin or terne plate was resumed, and the company was again incorporated under the name of the McKeesport Tin Plate Company, with a present capital of \$3,000,000, and an increasing business has largely augmented the number of employees. The company's works in the summer of 1921 were totally destroyed by fire.

The origin of the Fort Pitt Steel Casting Company was the Fort Pitt Steel Company, which was developed from the Sterling Steel Company, the original foundation being Jones, Ingold & Company, who with a capital of \$30,000 in 1874 erected a foundry within the borough limits. For many years the bulk of the product was consumed by the United States Government. Connected with these works was the Sterling-Wheeler Projectile Works, which made projectiles for the heaviest ordnance. Among the important industries of the city is the Union Sewer Pipe Company, their product consisting of sewer pipe, fire brick and building block.

In the religious life of the city, the pioneer preacher was the Rev. Boyd Mercer, a Presbyterian clergyman, who as early as 1801 held religious services in an old boat house, and in fine weather in the open air. The first church building, known as Union Church, was erected by the Presbyterians on a lot donated by John McKee, on the corner of Market and South streets. It was of brick, one story in height, about forty feet square, and was never entirely finished, the inside walls never plastered, and the ceiling of boards roughly put in place. It was razed in 1842, and a larger building constructed, which was torn down ten years later and a new church building dedicated. The churches standing in the borough in 1876 were eight in number, as follows: The First Presbyterian, the United Presbyterian, the First Baptist, the Methodist Episcopal, the Reform Presbyterian, the Protestant Episcopal, St. Peter's Roman Catholic, and the German Evangelical Protestant.

The First Presbyterian, which was the oldest congregation in organization, had for its first regular pastor the Rev. Alex. McCandless, who preached about one-third of his time from 1824 to 1837. He established and organized in 1830 the first Sunday school, and was succeeded in 1839 by Rev. Burton. The pulpit has been filled at various periods by the Revs. William Eaton, Samuel Hill, P. H. Jacob, Nathaniel West, R. F. Wilson, G. W. Hair, J. W. Wightman, Samuel McBride, George N. Johnson, J. J. McCarrell, and during a later period by Rev. Leon Stewart, who was succeeded by the present pastor, the Rev. Robert A. Elwood.

The First United Presbyterian Church was organized October 10, 1851, with fifty-four members, and a church was built the same year which was rebuilt in 1871. Its first pastor was Rev. A. G. Wallace, who was succeeded by the Revs. Matthew McKinstry, A. H. Elder, James Kelsoe, A. I. Young; its present pastor is Rev. McElwee Ross.

The Central Presbyterian Church was founded by a committee of the Redstone Presbytery, December 8, 1871, with fifty-nine members, and services were first held in a frame building on Union avenue. The present edifice, corner of Versailles and Union avenues, was erected in 1892, at a cost of \$23,000. Its present pastor is Rev. Robert H. Kirk. There are also the Atlantic Avenue United Presbyterian Church on Atlantic Avenue and Perry street, its pastor being the Rev. G. W. Bovard; and the Italian Associate Presbyterian Church on Fifth avenue, the pulpit filled by Rev. D. Pannetta. There was formerly a Covenantor or First Reformed Presbyterian Church, on Penney avenue, but its membership was small and no regular pastor was maintained. The Cumberland Presbyterian Church was organized November 19, 1879, by one hundred and nine members who withdrew from the First Presbyterian Church. It was first known as an independent Presbyterian church, but it became, June 20, 1886, a member of the Cumberland Presbytery. The society erected at the corner of Fifth avenue and Sheridan street a brick church, which was dedicated in November, 1882, under the pastorate of Rev. Samuel McBride.

The first Methodist class was formed in McKeesport about 1834, which formed the nucleus of the Methodist congregation that was recognized by the conference in 1841-42. The class consisted of twelve members under the leadership of Michael Dravo. The first house of worship was built in 1843 on a lot adjoining the corner of Market and Fifth streets. In 1846 a two-story brick structure was erected on the same lot. The third and present building was erected during the pastorate of Rev. W. H. Lynch, on the corner of Walnut and Penney streets, the congregation being known as the First Methodist Episcopal Church. The second church of this denomination was organized in 1883, their first place of worship was a frame building on Fifth avenue, where they continued until 1890. Their present church edifice on Coursin street was dedicated June 29, 1890; and the name was changed from Second Methodist Episcopal Church to Coursin street Methodist Episcopal Church. The original cost of the ground and building on Coursins

street was \$27,000. The structure was destroyed by fire, March 29, 1892, but was immediately rebuilt, and rededicated December 11, 1893. There was organized by the Methodist German population of McKeesport in 1886, a mission which later became an organized church, and the old Second Methodist Episcopal Church on Fifth avenue was acquired by purchase. This property was subsequently sold and a new church building was erected on the corner of Fifth and Hazel streets; the congregation was small. The present German Methodist Episcopal Church is located on Bridge street. The third Methodist congregation was known as the Third Methodist Episcopal Church, and held its first public service in Grand Army Hall, December 18, 1881. A lot was purchased on Shaw avenue, and a church building was erected October 19, 1882, which served until 1892, when the structure on Sixth avenue was built at a cost of \$20,000, and the name of the congregation was changed to the Sixth Avenue Methodist Episcopal Church. The other congregations of this denomination in the city are the Ballantyne Memorial Methodist Episcopal, corner of Converse avenue and Huey street; the Beulah Park Methodist Episcopal, corner of Grandview avenue and King street; the Christy Park Methodist Episcopal, on Marshall avenue and Bede street; the First Free Methodist, on Stoner avenue; the West Side Methodist Episcopal, on Atlantic avenue; the Swedish Methodist Episcopal, on Jenny Lind street, corner of South Soles street; and the St. Paul African Methodist Episcopal, on Fourteenth avenue.

The first Baptist church in the city was chartered as the McKeesport Regular Baptist Church, and was organized with seven members in June, 1820, largely through the efforts of William Stone and Nathaniel Tibbetts. The congregation worshipped for years in a frame building on Blackberry alley, and prior to the erection of this church services were held in the Union church. A removal was made in 1867 to the corner of Walnut and Sixth streets, afterwards to its present location on the corner of Olive and Locust streets. The congregation is known as the First Baptist Church, its present pastor being Rev. J. S. Braker. The Fifth Avenue Baptist Church was organized as a mission under the care of the First Baptist Church. It was chartered as an independent organization January 26, 1893. Its present location is on Fifth avenue near Evans avenue, the services being in charge of Rev. W. R. Hill. Other congregations of this denomination are the Swedish Baptist, on the corner of Soles and River streets; the Hungarian Baptist, on Diamond street; the Bethlehem Baptist (colored), on Fourteenth avenue and Walnut street; and the Zion Baptist (colored), on the corner of Thirteenth avenue and Locust street.

The First Reformed Church was organized in October, 1882, with eleven members, and Rev. H. D. Darbaker the first pastor. The congregation at present have a substantial church edifice on the corner of Union and Liberty avenues, the present pastor being Rev. Paul B. Rupp. The Magyar Reformed Church is located on the corner of Eighth avenue and Strawberry street. St. John's Evangelical Lutheran Church was organized in January, 1888, with twenty-eight members, and is located

on the corner of Ninth avenue and Locust street; the church was dedicated February 21, 1892; its present pastor is the Rev. John F. Heckert. There are also the following congregations of this denomination: The Swedish Tabor, the corner of Jenny Lind street and Butler avenue; Trinity English, the corner of Soles street and Stewart avenue; and Trinity German, corner of Evans and Tenth avenue.

St. Stephen's Episcopal Church was organized as a mission in 1869, and three years later a small chapel was erected. The stone church on the corner of Eighth avenue was dedicated on Easter Sunday, 1888. The present rector is Rev. L. Norman Tucker.

The German Evangelical Protestant Church had an organization in the city under a different name as early as 1846, but was organized under the present name in 1858. The congregation first worshiped in the little Methodist church on Market street, which in 1847 they finally purchased for six hundred dollars. The present brick church on Walnut street, corner of Olive, was dedicated October 15, 1871, under the pastorate of Rev. D. Lehman, who continued to fill the pulpit until his death in 1884, when he was succeeded by the present incumbent, Rev. Gustav O. Schmidt. Early in the eighties of the past century, there were two congregations of the Evangelical church maintained by the Swedish population of the city. The Swedish Evangelical was organized as the Evangelical Lutheran Church in 1884, and was reorganized under its present title in February, 1887. The congregation worshiped in a brick church building, corner of Locust and Thirteenth streets, which was erected in 1888. The First Swedish Evangelical Church was organized June 9, 1882, with twenty members, under the pastorate of Rev. F. Edquist. This congregation erected a frame church building in 1884 on Jenny Lind street, and in 1887 Rev. A. W. Johnston was installed as pastor. The pulpit has been vacant at different periods; the present pastor is Rev. Carl E. Cedar.

The First Christian Church was organized in 1878 with fourteen members; a church edifice was erected on the corner of Jenny Lind street and Penney avenue, and dedicated December 3, 1882; the present pastor is Rev. Frank J. Stinson. The Bryn Mawr Christian Church has in late years been established in the city; the congregation worships on Maple avenue, under the care of the Rev. William C. MacDonald.

Catholicism was introduced into McKeesport in 1846 by the establishment of the St. Peter's Roman Catholic Church. At this time the first church building was erected on the corner of Market street and Seventh avenue, the cornerstone being laid in 1847 by Bishop O'Connor. The original church edifice became inadequate, and in 1873 the cornerstone of a new edifice was laid on the same site. The building was completed in 1875 at a cost of \$70,000, a parsonage being built at the expense of \$7,000. Adjoining the church is a large convent, also a parochial school. The congregation is in charge of the Rev. C. A. McDermott. St. Mary's Roman Catholic Church was organized in the fall of 1886, by authority of Bishop Phelan, for the benefit of the German population of the city. A lot was purchased on Olive street, and the corner-

stone of a church building was laid August 7, 1887. The first pastor in charge was Father M. Holtopple, succeeded by Father T. J. Kaib, who celebrated the first mass in the new church, April 15, 1888, the formal dedication taking place April 29, 1888. The congregation is in charge at the present time of the Rev. Lawrence Boell. The other churches of this denomination in the city are St. Pius, on Ninth avenue; Sacred Heart of Jesus (Croatian), on Jenny Lind street; St. Mary's (Polish), on Versailles avenue; St. Perpetua (Italian), on Ridge street; St. Stephen's (Magyar), on Seventh avenue; and Holy Trinity (Slavish), on Seventh avenue. The Greek Catholic churches are the St. John the Baptist, on Sinclair and Ringgold streets; and St. Nicholas, on Sixth avenue; and the St. Savo Servian Holy Orthodox Catholic, on Hazel street.

The Austrian Hungarian Hebrew Gemulas Chesed was organized by the Hebrew residents of the city in October, 1886. The synagogue on Third avenue was erected and services held every other Sunday. The other religious organizations of the Hebrews in the city are the Congregation Sfarad Anshe Galizien, on Seventh avenue, corner of Mulberry street; the Temple B'nai Israel, on Jenny Lind street; Keshet Israel Congregation, on Mulberry street, and the Tree of Life (Etz Chaim), on Sixth avenue and Mulberry street.

Among the other religious congregations in the city are the First Christian Science Society; the First Congregational Church, located on the corner of Evans street and Stewart avenue; the First Nazarene Pentacostal Church, on the corner of Locust street and Fourteenth avenue, under the pastoral charge of the Rev. William Douglas. The Salvation Army have an Industrial Home on Fifth avenue. The First Spiritualist Society holds meetings Sunday evenings in a hall on Market street. There are three congregations of the United Brethren: the Fawcett Avenue, located on the avenue of that name and Shields street; the First Church of the United Brethren, on Highland street; and the Shoemaker Memorial, on Converse avenue and Beaver street. There is a Free Methodist congregation that worships on the corner of Sill and Hamilton avenues, under charge of the Rev. Benjamin Hosbach.

The early educational facilities of McKeesport were inaugurated in 1816 by Andrew Hendrickson, who taught school long before the erection of a public schoolhouse. He was succeeded by Dr. McClelland, who kept a school in a small frame addition of the old Evans mansion in 1831. The first schoolhouse was built in 1832 by private subscription, and was situated on the Diamond in Fourth street, and was located in the middle of the street, its dimensions being twenty by thirty-two feet. This little schoolhouse was moved from the Diamond in 1849 to a lot adjoining the parsonage of the First Presbyterian Church. The first teacher was a Mr. Higly, and he was succeeded by other noted instructors, prominent among whom was John F. Dravo.

The first public schoolhouse was a frame building erected in 1841 on a lot east of Walnut street and between Eighth and Ninth streets. This was used for several years and finally converted into a dwelling house. The first teacher was Dr. James E. Huey. A more pretentious public

school building was built in 1849 on the corner of Market and Sixth street; it was a three-story brick structure, which was torn down in 1863 and a new building built on the same site, now known as the Market Street School. The first principal in the new schoolhouse was R. L. Riggs. In the Second Ward in 1880 the present Walnut and Ninth avenue school foundation was laid by the erection on Walnut street of a school building at the cost of \$21,400. The Fifth Avenue School was erected in 1884 at the cost of \$40,300. The Ninth Avenue in 1890 cost \$30,248; the South Park in the same year caused the outlay of \$3,560. The East End soon followed and was enlarged in 1893. In addition to these buildings, the Third Ward frame school was built in 1870, but was soon afterwards abandoned for school purposes. In 1894 the Centennial School Building was built in the Seventh Ward, at the cost of \$35,000. Thus was the foundation laid for public schools second to none in the State. At the present time there are fifteen school buildings, containing two hundred and thirty-five rooms. The schools are under the direct charge of a superintendent of education; the first to be elected to that office was T. F. Newlin in 1881, and who established a high school; there is also a Junior High School and a Manual Training School. The number of principals engaged in educating the pupils is fourteen, assisted by two hundred and forty-nine teachers; the enrollment of pupils September, 1919, was 8,076. Free text books were introduced into the schools February 1, 1892. In addition to the public schools there are Roman Catholic parochial schools which number seven in the city.

The banking interests of McKeesport date back to the organization of the Monongahela Valley Bank in 1858, with a capital of \$200,000. Through unfortunate management and adverse circumstances the bank failed in 1860. The town was without banking facilities until January 1, 1866, when F. H. Coursin & Company opened a private banking house which was sold in May, 1871, to the Commercial Banking Company of Pittsburgh, who disposed of the bank to the Commercial Banking Company of McKeesport, which was organized in March, 1872, and was merged with the First National Bank of McKeesport. This latter institution was organized March 1, 1875, with a capital of \$67,000, and a banking room was established in the Masonic Building on Fifth avenue, where it remained until 1881, when the bank removed to its own building on Fifth and Walnut streets. The capital in 1892 was increased to \$100,000; a further increase was made later to \$250,000; its present capital is \$300,000, which with the surplus amounts to \$500,000, the undivided profits being \$151,778.46. The Peoples Bank, organized as an individual liability bank in February, 1873, began business on the southwest corner of Fifth and Market streets; its present capital and surplus is \$1,000,000. The National Bank of McKeesport was organized as the Bank of McKeesport in May, 1887, with a capital of \$150,000, and began business in the White Building on Fifth avenue. The bank erected its present building on the corner of Fifth avenue and Sinclair street in 1889, and in September, 1891, was reorganized under the National Banking Law, the capital being increased to \$200,000; the surplus and undivided profits

amount to \$300,000. The Citizens National Bank which was organized in 1893, is no longer in existence. The City Bank of McKeesport opened its doors to the public, July 1, 1905; it is located on Walnut street, having a capital of \$150,000, with a surplus and undivided profits of \$100,000. The McKeesport Title and Trust Company was organized in 1900; its banking location is on the corner of Walnut street and Sixth avenue; the capital of the trust company is \$407,100. The Union National Bank on Fifth avenue, was organized in 1905, with a capital of \$150,000; the surplus and undivided profits is represented by \$161,136.95.

The pioneer effort to establish a newspaper in McKeesport was made in 1854, when John I. Collins tempted fame and fortune with the "McKeesport Standard," the initial number appearing December 16th that year. The office of the paper was established in a small one-story frame building, corner of Walnut street and Cherry alley. For lack of patronage, after passing through the ownership of several parties the paper died a natural death in 1861. This was the last of the newspaper business in McKeesport until June 18, 1870, when the first number of the "Paragon" appeared under the editorship of John W. Pritchard, a Pittsburgh printer. It was a weekly paper, and soon suspended publication, but reappeared July 29, 1871, continuing for a time with indifferent success, and was changed to a morning daily. The property passed through several hands and in September, 1884, was placed under the management of John B. Scott, who in the meantime had established a daily and weekly newspaper called "The Record." "The Paragon" was a morning daily, and the weekly was called "The Paragon-Record." The John B. Scott Publishing Company continued the publication until June 8, 1887, when Hamilton Brothers leased the outfit, and November 7, 1887, issued the first number of the "Morning Sun." The next proprietor was T. F. Galvin, who continued issuing the paper until March 6, 1888, when it passed into the hands of E. C. Hough, who abandoned the daily, continuing the weekly until April 1, 1888, when the entire plant was removed to Homestead.

The "McKeesport Times," a Republican weekly, was established by B. B. Coursin, the first number appearing August 5, 1871. This paper was a success from the start, owing to the vigorous policy of its projector. The paper was subsequently sold to S. E. and J. V. Carothers, under whose direction the daily edition was established in 1876. The death of J. V. Carothers caused a change in the firm, and the paper was purchased by W. A. Dunshee, who sold it to J. C. Tarkington, and in March, 1886, the office and contents were consumed by fire, but the paper was on the street the same day as usual. The McKeesport "Evening Times" occupied its own building on Walnut street, and many notable newspaper men have filled its editorial chair. In the last quarter of a century there were changes in its ownership until its suspension, the last proprietor being The Times Publishing Company, Anson B. McClelland being editor and manager.

The "Daily News" was established by Dravo Brothers & Clark, July 11, 1884. After a short time Mr. Clark retired from the firm, and the

paper was continued by Dravo Brothers. The plant was leased October 18, 1886, to James L. Devenney, who afterwards purchased it outright, associating with him his brother, John Devenney, and formed the News Publishing Company; a controlling interest in this corporation was sold March 30, 1891, to J. B. Shale. The Daily News Publishing Company, the present publisher, is located in its fine building on Walnut street, which is fully equipped, including telegraph service, for the production of a first class paper. There have been several other attempts to establish newspapers in McKeesport, which proved a veritable graveyard for their efforts.

The large Swedish population of the city was provided with a newspaper in their language by the establishment of the "Svenska Veckobladet" in 1890. The first number was issued January 8, 1890, it being an eight-page, seven column weekly. The paper was a success, claiming to have a circulation in every State in the Union, but has been discontinued in late years. The "Swedish Messenger" was established in 1891 by Rev. Kalberg; it was a weekly; not proving successful, it became defunct in 1894.

McKeesport came into the spot-light in August, 1919, when probably the first paying gas well was struck at the depth of 2,939 feet just south of the city. The well started at 4,000,000 cubic feet a day, which was quickly increased to 52,000,000 cubic feet, which totaled 5,000,000,000 cubic feet in one hundred days. This wonderful development caused the forming of gas companies, and by December, 1919, there were one hundred and sixteen companies in existence and two hundred and thirty wells located. These companies were materially increased in January of the following year, but only twenty-nine had reached the stand where the greatest developments were obtained. The drilling for oil and gas wells in the McKeesport district had been going on sporadically for forty years or more in what was known as the Murrysville field, and big strikes were given publicity in 1878, when leases were bringing as high as \$25,000, and a wild western stock selling boom was inaugurated. The first gas piped to Pittsburgh was from this field. From that day, drilling was carried on sporadically, many dry wells were found, therefore the discoveries of 1919 were not in a new field but one that had laid in a dormant state until the big strike of that year again brought McKeesport to the front in the natural gas world. But the delusion was only momentary, though wells were drilled in every direction, the back lots of the residences being ornamented with derricks. Those wells that produced gas soon went dry and the great farce came to an end; the pockets of the wouldbe millionaires were emptied by the gambling in the stock of the companies, and the boom died a natural death.

The borough of Reynoldton, named for Thomas Reynold, its first burgess, incorporated in December, 1886, formerly was a part of Lincoln township. This borough, also Christy Park, organized in 1890, were annexed to the city of McKeesport. There are a number of boroughs that form a fringe around the city. East McKeesport was made a borough in 1896, and was enlarged in 1902 by annexing territory from

North Versailles township. It is largely a residential section, being a suburb of McKeesport and Wilmerding. The borough building is located on Josephine avenue, corner of Argo street, and the schoolhouse is on Chicora street. The water for family use is supplied by the East McKeesport Water Company, and property is protected from fire by a volunteer fire department. The religious life of the borough is represented by the First Presbyterian Church on Fifth avenue, in charge of the Rev. Dewalt D. Kiehl; the United Presbyterian Church, the present pastor being Rev. Ernest G. Forrester; the First Methodist Episcopal Church; and the St. John's Evangelical Lutheran Church.

On the opposite bank of the Monongahela river, formerly a part of Mifflin township, the borough of Dravosburg was incorporated in 1903 and named in honor of John F. Dravo, who opened coal mines in its vicinity many years ago. The important industry is the Dravosburg Dock and Construction Company, boat-builders and steamboat repairers, operated by the Hillman Transportation Company of Pittsburgh. The Dravosburg public school is equipped with all the improvements for a modern education. Among the religious organizations are the Methodist Episcopal Church on Euclid avenue; Amity Presbyterian Church, on Washington avenue, corner of First street, its present pastor being the Rev. Thomas R. Lewis; and St. John's Lutheran Church, on Euclid avenue. A notable institution is the Hamilton Methodist Episcopal Memorial Home for the Aged, on Maple avenue. The financial interests of the borough are represented by the State Bank of Dravosburg.

Versailles is a suburb of McKeesport, on the Youghiogheny river, and was incorporated as a borough in 1894. The galvanizing plant of the National Tube Company is located within its limits. The Versailles Methodist Episcopal Church was built in 1915 at the cost of \$15,000, and is located on the corner of Walnut and Washington streets. The borough has a substantial school building with twelve teachers and an enrollment of about five hundred pupils.

Port Vue, two miles south of McKeesport, is the seat of the McKeesport Tin Plate Company, and largely consists of employes of that company. It was organized as a borough in 1892, the first burgess being Robert Caughey. The borough affords educational advantages to its citizens, the religious organizations consisting of the First Methodist Episcopal Church, and a mission of St. Stephen's King Magyar Church of McKeesport, called St. John's Mission. A small portion of the borough of Trafford which was taken from North Versailles township is located in Allegheny county.

Duquesne—The site of Duquesne in 1885 was covered with fields of waving grain and orchards of ripening fruit, forming a part of Mifflin township. It is twelve miles southeast of Pittsburgh, and formerly consisted of two railroad stations about one mile apart, known as Cochran and Oliver, and a village back of the hills called Germantown. Its name was taken from Fort Duquesne, which was named for one of the French governor-generals of Canada. The city for election purpose is divided into three wards. In what is now the First Ward, a patent was

issued April 3, 1769, to Benjamin Tate, who transferred the property July 16, 1770, to General William Thompson; upon his death it passed into hands of his widow, who conveyed to Peter Charles De Luziere, a Frenchman of wealth who kept a retinue of servants, among whom was Anthony Dravo, a butler, a grandsire of John F. Dravo, a well-known river man for whom Dravosburg was named. The property again came into possession of Mrs. Catherine Thompson, the widow mentioned above, and on November 23, 1810 it was purchased by Charles Francis William Van Bonnhorst, a native of Prussia, who established a grazing farm, stocking it with imported Merino sheep. This venture did not prove a success, and the owner removed to Pittsburgh, the property passing into other hands. That which is now the Second Ward was known as "McKee's Choice," a warrant for three hundred acres being granted to John McKee, the founder of McKeesport. He also came into possession of three hundred acres that constitute the Third Ward. It was originally patented under name of "Ross Commons" to Alex. Ross, who on being convicted of treason forfeited the land to the commonwealth. One of the earliest settlers on this tract was John Niel, who settled on a hillside back of Dravosburg and afterwards at Thompson Run, a short distance west of Duquesne, where he in 1789 erected the first grist mill operated in the vicinity, to which he afterwards added a distillery.

The industrial life of Duquesne commenced May 28, 1885, when the construction work on a steel plant was commenced by a corporation known as Duquesne Steel Company. On completion of the mill it laid dormant for two years. In 1888 it was purchased by the Allegheny Bessemer Steel Company, and operations were commenced in the blooming mill February 9, 1889. A strike of the employees was inaugurated in April, 1889; the company attempted to carry on the works by importing a new force, but finally in the fall of 1889 disposed of the plant to the Carnegie Steel Company. Some of the employees of the National Tube Works organized a company, purchased twenty acres of land a short distance below the railroad station, and became a chartered company as the Duquesne Tube Works Company. Ground for the construction of the plant was broken in June, 1887, and in November of that year it was ready for occupancy. At first only boiler tubes were turned out, but soon the finest kind of tubes were manufactured and the employees increased to 425 men, with a payroll of \$18,000 a month, the production being one hundred and fifty tons weekly. The panic of 1893 caught the company in financial straits; the plant was kept in operation until July 26, 1896, when it was shut down never to open again; the grounds were afterwards sold to the Carnegie Steel Company, and the stock to the National Tube Company and others.

The Howard Plate Glass Company was the third great corporation at Duquesne. They purchased twenty acres as a site, and later added seven acres to the purchase. The work of excavating commenced May 8, 1888, and a monster glass house was constructed employing three hundred hands. The plant was kept in operation until April, 1895, when it was shut down never to be used again for the manufacture of glass. In

1898 the property came into the possession of the Carnegie Steel Company, the machinery being distributed to different plants of glass corporations.

Duquesne was incorporated September 12, 1891, as a borough; the first election was held on the third Tuesday of February, 1892. The area of the borough was 930 acres, in which were 400 dwellings and boarding houses that sheltered about two thousand people. By annexation in 1913, the area was increased to 1,264 acres, the number of houses being estimated at 3,700, the population approximating 25,000. It gained for itself the sobriquet of "the Young Giant of the Monongahela Valley," located as it is in the heart of the world's greatest manufacturing district and in the belt of the Western Pennsylvania natural gas field.

The great steel plant which thirty-five years ago was a small group of blooming, converting, and rail mills, is now one of the greatest if not the greatest of the United States Steel Corporation. It occupies a land space of 181 acres, has a river frontage of 11,170 feet, and every year the monster furnaces of the plant eat up 2,300,000 tons of oil and deliver 1,200,000 tons of finished product.

Public improvements have kept pace with the enlargement of manufacturing interests. The first car of the Monongahela street railway ran through the borough November 21, 1898, and on September 16, 1910, another line of street railway, the Duquesne & Dravosburg street railway, was opened for traffic. The city, through the benefaction of Andrew Carnegie, erected a library building at a cost of \$300,000, which was formally dedicated November 12, 1904, and at the present time houses 30,000 volumes. It is one of four similar institutions with a Carnegie Club as part of its equipment, the others being located at Braddock, Munhall, and Carnegie. A Chamber of Commerce was organized November 13, 1900, and reorganized October 7, 1908. There were in 1891 five churches—Presbyterian, First Methodist Episcopal, First Baptist, Holy Name Roman Catholic, and St. Nicholas Greek Catholic. Today in addition to these are the First Lutheran, First Christian, Grace Reformed, Congregationalist, Swedish Lutheran, St. Albans, Episcopal, Reformed Hungarian, St. Joseph's German Catholic, Holy Trinity Slavish Catholic, SS. Peter and Paul's Greek Catholic, St. Hedwig's Polish Catholic, Beth Jacob Hebrew, Jerusalem Baptist, and African Methodist Episcopal. A school system was maintained from the original three small schoolhouses until 1891; there are now a modern high school building of thirty-five rooms, with auditorium and gymnasium; seven grammar schools; school properties valued at \$533,673, and the enrollment of school children reaches 3,000. Parochial schools belong to Holy Name and St. Joseph's Roman Catholic parishes; also the Holy Trinity and Polish Catholic churches conduct similar institutions. The water supply of the city is derived from wells not far from the river, is filtered through sand and gravel, and stood several tests of efficiency. There are paved streets, sewers, rapid transit, a paid fire department, electric light and power. The borough was incorporated as a city of the third class in 1910.

The First National Bank of Duquesne was opened for business May

16, 1892, with a capital of \$50,000. The Duquesne Trust Company opened its doors May 28, 1903, with a capital of \$125,000. The resources of these two institutions at the present day is nearly \$3,000,000. The twenty-fifth anniversary of the corporation of the borough was celebrated September 10, 1916, with appropriate ceremonies.

Clairton—Clairton's natal day is January 1, 1922. By vote of the inhabitants of the boroughs of Clairton, Wilson and North Clairton, on the general election day in 1920, it was decided by a majority that they would under the provisions of the general laws of the State governing the organization of cities of the third class avail themselves of the law and establish a new city in the confines of Allegheny county. The primary reason of changing from a borough to a city form of government was the vital question of sewerage; as it seemed advisable that there should be unity on this question, it was deemed best that all the interests of government should be united. Thus was created on the southern bank of the Monongahela river about twenty miles from Pittsburgh, a city of about twenty thousand inhabitants.

The oldest of these three communities, North Clairton, was situated in a valley located between the other two, a short distance above the mouth of Peter's creek, a large and important affluent of the Monongahela river, the surrounding hills abounding in coal and limestone. At the time of the completion of the Pittsburgh, Virginia & Charleston railroad it was known as Blair station, and became a post office by that name. The important industry was brickmaking, and here was located the extensive works of the Monongahela Brick Company.

The birth of the borough of Clairton was largely due to the location along the bank of the river of the extensive steel plant known now as the Clairton Steel Company. The three boroughs were formerly a part of the township of Jefferson. Clairton was exploited by the St. Clair Improvement Company, organized in the spring of 1901 with a capital of \$100,000, and on June 14th of the same year purchased a tract of 700 acres adjacent to the large manufacturing sites located between the river and the Monongahela division of the Pennsylvania railroad. This tract was divided into house lots, and a broad smoothly paved avenue was built from the railroad tracks to the summit of the hill. The company received its title to the lands from Henry C. Frick who perceiving the excellency of the location for the operation of extensive industries, coupled with the facilities of water and railroad transportation, had purchased it from James P. Wylie, Samuel P. Lange, and other owners. This purchase was conveyed to the St. Clair Improvement Company, June 14, 1901, and on July 26th of that year the plant was submitted to the public for the purchase of lots, and in a few days was heard the busy hum and clatter of the hatchet erecting places of business, residences, and homes for the toilers employed in the steel plant. Modern improvements were immediately introduced, a beautiful railroad depot was erected at the cost of \$100,000, streets paved, sewerred, and lighted by electricity, while natural gas and good water were supplied to the three thousand inhabitants that soon gathered within its limits.

The primary cause of this wonderful development was the action of the Crucible Steel Company of America in the early part of the twentieth century, when it decided to meet the present and future wants of its plants by erecting blast furnaces and steel works to furnish them with raw materials. The St. Clair Steel Company and the St. Clair Furnace Companies were organized, the former to operate the steel plant and the latter to operate the blast furnaces. As the two companies were so closely allied, they were later merged into the Clairton Steel Company. A site of 175 acres was purchased fronting for nearly two miles on the Monongahela river, and though the Monongahela river division of the Pennsylvania railroad passed through the property, to secure better railroad facilities, a bridge was built across the river connecting the works by a railroad known as the St. Clair Terminal railroad to connect with the Pittsburgh & Lake Erie railroad, connections also being afforded with the Baltimore & Ohio and the Wabash roads. With a view of future needs, thirty acres were purchased along the river on the opposite bank from the works. The mills were equipped with every device of modern machinery electrically driven. The blast furnaces have the patent closed top, the diameter being large in comparison with the height, especially designed for Mesabi ore. Each blast furnace is blown through twelve tuyères, and have surpassed in output the sanguine expectations of their builders, the Garrett Cromwell Engineering Company of Cleveland, Ohio. The open-hearth building was originally equipped with a 300 ton mixer with regenerative chambers and stack which could be fired by both natural and producer gas, while the furnaces are charged by electricity. The steel produced was to be by the Bertrand-Thiel process the Crucible Steel Company having secured the American rights. The ore to be used was from the Champion mill mine, and by the new process half of the furnaces were run primary, the remainder secondary; the partly refined steel being drawn from each primary furnace in a regular ladle and transferred to a secondary furnace in which the scrap not used in the mixer has been previously charged and melted. The ingot molds after leaving the soaking pits are automatic-electrically transferred to the blooming mill, which with modern equipments shear the billets and by an inclined conveyor they are dumped into cars or piled in the billet yard; all these movements being accomplished by an automatic push-off operated by one man by traveling cranes, thus greatly reducing the cost of handling. The ore handling equipment is also of most modern type; traveling electric bridge tramways handle buckets and automatic dump tubs which convey ore, coke and limestone to bins that are equipped with spouts and gates of mechanism which are drawn off into lorries running on tracks underneath the bins, which deposit the material in the skip car of the furnaces. The products of the Clairton Steel Company are of varied descriptions. In connection with the plant there are 620 ovens for the manufacture of coke. The coal used is from the Connellsville district, transported by river navigation. There have been instances when the coke has only required twenty hours for roasting, and the quality produced is second to none. Gas is also

produced, and is distributed to the manufacturing industries at Homestead, Duquesne and Braddock by pipe lines. Among by-products are coal tar, varnish, and several others that are not made public. The traveling crane in the company's plant at its lower southerly end is 560 feet long, and is said to be the largest in the world; it is used in shipments of coal and coke. It was in May, 1904, that the entire plant passed into the hands of the United States Steel Corporation, which acquired the entire stock by the payment of \$1,000,000 United States Steel Corporation bonds and guaranteeing the principal and interest of \$5,000,000 five per cent bonds of the Clairton Steel Company; \$2,980,000 bonds of the St. Clair Furnace Company; and \$2,250,000 of the St. Clair Company bonds. The Corporation also assumed mortgages aggregating \$1,666,715 on real estate, coal lands and mining properties. Through this purchase the United States Steel Corporation secured the entire ownership of the Clairton Steel Company, the Champion Iron Company, the St. Clair Terminal Railroad Company, and fifty-one per cent of the St. Clair Limestone Company.

The industrial borough of Clairton was incorporated April 25, 1903, with J. Will Taylor as burgess, and R. H. Sloan, W. P. Gleason, W. B. Farnsworth, S. C. Wilson, D. M. Wolf, Frank Bennett and John Lutz as members of the council. The population at this time was about 3,000, who dwelt on an elevated plateau with an atmosphere light and pure. Scattered throughout this area were brick dwellings, churches and places of business. The religious element was represented by a Presbyterian congregation organized in 1903, and a Roman Catholic church was completed soon afterwards. The Cumberland Presbyterian Church occupies a unique little brick church on what is now North Third street, which was completed in the month of October, 1902, at a cost of \$3,500. The congregation was organized by Rev. N. W. Clark with about thirty members; the present pastor is Rev. J. H. McCormick. The First Methodist Episcopal Church on Waddell avenue was built in 1907, of brick; the pulpit at the present time is served by the Rev. William L. Hogg. The Episcopal Church of the Transfiguration is located on the corner of North Third street and Halcomb avenue; it is a small brick structure with an ornamental tower, having a seating capacity for about two hundred and fifty persons. There are two congregations of African Baptists. The Morning Star Baptist Church was erected on Shaw avenue in 1919; it is a frame building, the society numbering about one hundred and twenty-five members, under the care of Rev. M. A. Martin. The Mission Baptist Church, in charge of Rev. Columbus McElroy, has in process of erection on the corner of North Third and Park avenue a pretentious brick edifice at a cost of \$15,000, which will have a seating capacity of four hundred; the present membership of the congregation is in the neighborhood of seventy-nine. Besides these, there are a Roman Catholic Church for the Salvic race, a Greek Catholic church, and a Jewish synagogue.

The educational facilities are of modern development; a high school is maintained, which besides furnishing higher education to the pupils

of the borough receives scholars from neighboring communities. There are also two graded schools; the larger of these is on North Third street; on the lot it occupies there is on each side of the main building temporary quarters to accommodate the fast increasing school population. In the rear of the building is a playground equipped with all modern appliances. Clairton offers to her citizens a well established police protection, and a volunteer fire department equipped with a modern fire engine.

The early development of Clairton was greatly benefited by the organization of the Union Trust Company, May 1, 1902. The bank opened its doors for business June 26, 1902, occupying their present quarters in November of that year. The first president of the bank was Reuben Miller; the present treasurer, J. Will Taylor, has filled that position since the organization of the institution. The Union Trust Company has always conducted a paying and conservative business. At the close of business, March 29, 1921, its resources were \$1,717,319.55, its deposits amounting to \$1,482,200.55. The bank has paid on its capital stock of \$125,000, dividends amounting to \$121,250. The present head of the institution is A. G. Wilson. An enterprise worthy of note is the Clairton Inn, which was opened January 1, 1903, by J. B. Lyons, and is still conducted as a first-class hostelry.

In early days, just above Blair station, about a mile and a half up the Monongahela, there was a school house which became known from a family in the neighborhood as the "Wilson school house." The members of this family owned the land on the hills some distance inland from the river. The employes of the industrial establishment soon began to purchase lots on the hillsides, and the level near the river banks became available for mercantile business. The population had increased in 1910 to about one thousand, and three years previous to this steps were taken to form a borough government. The housing plan adopted, the improvement in street paving soon showed results and the residential section soon grew apace rivaling in the excellency of its modern constructed dwellings its nearby neighbor of Clairton and rapidly increasing in population. The present school facilities consisted of two graded schools, the one on Walnut street being a magnificent two-story brick building of originally eight rooms, to which have been added sixteen rooms built so as to constitute in the center of the building a large auditorium. The manufacturing interests outside of the Clairton Steel Company already mentioned, are the Monongahela Tube Works, an independent organization; when running at full capacity, it employs four hundred persons. Morrison & Bailey are manufacturers of a high grade of steel largely used in the construction of typewriters, and in the busy season furnish employment to about three hundred wage earners. The financial institution of the borough is the First National Bank of Wilson, organized with a capital of \$25,000 in 1903 under the National Banking Law. The capital stock was increased January 1, 1921, to \$50,000. The first president of the bank was Dr. J. F. Scott, its present officials are: A. G. Wilson, president; and Edwin Latchen, cashier. The religious element is represented by the First Presbyterian and Methodist Episcopal con-

gregations. A number of the residents of the borough attended the Lebanon Presbyterian Church, situated about five miles from the borough, in the township of Mifflin.

Before the organization of Allegheny county, back in the year 1778, the Rev. John McMillan, then a youth of twenty years, a licentiate of the Presbytery of New Castle, the ministerial pioneer in the wilderness of Western Pennsylvania, preached in this region. There is no data of the number of communicants or of families that composed the congregation. The territory embraced was very large. The first house of worship was a rude, uncomely and unpretending cabin without floor, windows, or place for a fire, and here God's name was recorded, and from this spot for over twenty years his gospel was proclaimed. In accordance with the journal kept by Dr. McMillan, his first sermon was preached on the first Sabbath of November, 1776, at Pidgeon Creek, where he baptized children. His pastorate, assisted by his colaborers during the years of our Revolutionary struggle, antedated in Bethel, Lebanon, Montours and Beulah, any organization of churches in Pittsburgh.

The united charge of Bethel and Lebanon in their early organization were called the Eastern and Western Division of Peter's Creek congregation. The first call for a pastor was sent to Rev. Joseph Smith; he signifying his acceptance of a call to Cross Creek and Buffalo, the Rev. John Clark then became the first pastor. At the time of his settlement the Rev. Mr. Clark was past middle age, of very feeble health, but in appearance grave, sedate, and venerable, as a preacher, solemn and impressive. He was received into the Presbytery of Redstone, March 12, 1783, but entered informally upon his pastoral labors in his united charge of Bethel and Lebanon some time before this date. His pastoral relations were dissolved April 17, 1788; the church continued vacant until June 28, 1797, when Rev. William Woods was installed in charge of both organizations. At the beginning of Mr. Woods' pastorate, the old church was replaced by a house of hewed logs covered with shingles, with the additional luxury of a board floor and glass windows. Rev. Mr. Woods resigned the charge of Lebanon in 1819 and gave his whole time to Bethel, where he labored until his death in October, 1834. The Rev. Thomas D. Baird preached his first sermon October 15, 1820, and resigned in October, 1835. He was an able preacher and highly esteemed by the entire community. Some time previous to 1823, a movement was started for the erection of a brick church, and the following year a large and commodious edifice was erected. Mr. Baird resigned the pastorate in October, 1835, on account of ill health, but retained the editorship of the "Pittsburgh Christian Herald." The Rev. Samuel Henderson was installed as pastor in November, 1836. In the fourth year of his labors some difficulty arose between the pastor and a portion of his congregation, and a dissolution of his relation to Lebanon was granted in June, 1840. The congregation remained without a pastor for fourteen months, when a call was framed for the Rev. William G. Johnstone, which was accepted, and he was installed in November, 1841; his stay was short, for in eighteen months he applied to the Presbytery for his

dismission. The pastorate was vacant for awhile; in August, 1843, Mr. Johnstone was again installed as pastor, his work continuing until April, 1845, when he resigned, and in January, 1846, Rev. John McConoughy became pastor, but was released from his charge in September, 1848. The next pastor was Rev. O. H. Miller, installed in February, 1849, and at his request the Presbytery granted him his release April 1, 1858. The Rev. A. O. Rockwell began his ministry at Lebanon, October 1, 1858; it was dissolved July 1, 1869, and in October of that year Rev. S. S. Shriver was invited, and was installed the following June, but on account of ill health resigned September 24, 1876. During his pastorate the brick church was taken down and the cornerstone of a new church of the same material, was laid July 24, 1871; dedicated July 27, 1872. On March 5, 1877, a unanimous call was made for the pastoral services of Rev. R. H. Fulton, which was accepted, and on June 7, 1877, he was ordained and installed. This pastoral relation was dissolved in May, 1880. After a vacancy of four years, Rev. G. N. Johnstone became pastor; he preached his farewell sermon January 1, 1893, and June 13th of that year Rev. H. H. Grubbs was ordained and installed as pastor. Mr. Grubbs obtained his release December 19, 1895, and April 30, 1898, a call was extended and accepted by the Rev. J. T. Munford, who was installed June 13, 1898. The successor of Mr. Munford was Rev. John S. Axtell, who resigned in September, 1920, after serving the congregation for fourteen years, to accept a call to St. Mateo, Florida. The present pastor, the Rev. H. E. Snyder, was installed in January, 1921.





BRADDOCK OF LONG AGO; FROM AN OLD ENGRAVING

CHAPTER III.

Boroughs.

The following summary of the important events of Braddock, is by George H. Lamb, A. M., librarian of Carnegie Free Library of Braddock, Pennsylvania.

Braddock, North Braddock and Rankin, three separate boroughs, form one community and industrial center situated on the Monongahela river eight or nine miles from where it unites with the Allegheny to form the Ohio. Here was constructed the first cabin built by a white man west of the Allegheny Mountains. The man was John Frazier, who settled here with his family about 1742. The cabin stood on the right bank of the Monongahela, just below the mouth of Turtle Creek. The site is now covered by the blast furnaces of the Edgar Thomson Steel Works.

George Washington, then a young man of twenty-one, was sent by Governor Dinwiddie of Virginia, in the autumn of 1753, to warn the French not to build forts in the Ohio valley, as that territory was claimed by the English. Washington visited Fort Duquesne, at the junction of the Monongahela and the Allegheny; Fort Venango, at the point where French Creek meets the Allegheny, now Franklin; and Fort Le Boeuf, near the source of French Creek, where the town of Waterford in Erie county is now located. Christopher Gist in his Journal says that he and Washington on this journey stopped over night, Thursday, November 22, 1753, at Frazier's cabin, and again on their return trip, Sunday, December 31, 1753. Tradition says that Washington was much attracted by one of Frazier's beautiful daughters; and novelists have woven a romance about the incident, making of it a veritable love story.

The French failed to heed the warning sent by Governor Dinwiddie, and later war ensued between the French and Indians on one side and the English and the Colonists on the other. General Edward Braddock with his regiment, the Coldstream Guards, was sent over from England to compel the French to evacuate this territory. On the ground now occupied by the boroughs of Braddock and North Braddock was fought, July 9, 1755, the most important engagement of that campaign, known in United States history as Braddock's Defeat, though referred to by the French and the English as the Battle of the Monongahela. This battle, while a defeat for the English and Colonial troops, was in fact one of the pivotal points in United States history. It was the beginning of a long series of engagements, in American history styled The French and Indian War, which eventuated in excluding the French from the territory of the United States and in opening up the vast valleys to the west of the Allegheny Mountains to colonization by the English.

Voltaire says of the campaign which culminated at Braddock's Field, "Such was the complication of political interest that a cannon-shot fired in America could give the signal that set Europe in a blaze." Parkman quotes Voltaire, and adds this comment: "Not quite. It was not a cannon-shot but a volley from the hunting pieces of a few backwoodsmen commanded by a Virginia youth, George Washington." Thus Voltaire makes the battle of the Monongahela a pivotal point not of American history

alone, but of world history. While Parkman sees in the battle not merely the war which ensued between France and England, but, looking beyond this fierce struggle, he sees the Independence of the English colonies and the upspringing of a mighty nation. And Parkman gets the right perspective. For on that memorable July 9, 1755, the colonists made two discoveries that were destined to play an important part in the shaping of future events. One was, that the colonial militia were not inferior in any sense, on their own ground, to the trained British soldiery; the other was, that on that day their native-born leader was revealed to them; and from that hour George Washington was a marked man—a man of destiny, and the colonists knew it.

But the region formerly known as Braddock's Field has still other claims to historic prominence in early times. At the time of the Whiskey Insurrection this was an assembling point. On Friday, August 1, 1794, there were gathered on this field men from the four counties of Western Pennsylvania to the number, it is said, of 8,000. These were the men who believed that the new internal revenue tax on whiskey was aimed at their chief industry and amounted to confiscation of their property. After a demonstration of their strength in and by this assembly, thus registering their protest against the tax, they returned quietly to their homes and later yielded peaceably to the Government's demands.

Again, in 1825, when General the Marquis de LaFayette, who had assisted the colonists in gaining their Independence made his return visit to this country as "The Guest of the Nation," after an absence of nearly half a century, he was entertained for one night, May 28, 1825, in the home of Mr. George Wallace. This house, later used as a young ladies' seminary, the first school of its kind established west of the Alleghanies, is still in a good state of preservation and bids fair to stand for another century.

During the dark days of the Rebellion, Braddock's Field was again brought into public notice by the location here of Camp Copeland, a recruiting and training station for new enlistments.

Lastly, in the World War, Braddock Center did its full share. Many men from here volunteered even before the draft board reached their names, some under the colors of other nations. Many from Poland, Italy and Greece returned to their home land to enlist there; others, American born, enlisted with Canadian or English regiments even before the United States declared a state of war to exist with Germany and Austria. Many boys under the draft age volunteered for service with United States troops as soon as there was opportunity. Nearly two-score from this district gave up their lives for the cause of world freedom. Others came home broken in health from wounds and exposure, from shell shock and from the poisonous gases which the brutal Germans, contrary to all rules of war, released in the allied trenches. From these causes some have since died, while still others live on with health undermined.

On April 17, 1917, ten days after the declaration of war, Braddock auxiliary of Pittsburgh Chapter of the American Red Cross was organized. Headquarters were secured at the home of Mr. A. E. Maccoun. Later, as the work expanded, three rooms at the Library were given over for the work, and still later the basement of the First Methodist Episcopal Church was used for making surgical dressings. At the end of the first year the branch was enlarged to include East Pittsburgh and Braddock

township, and its name changed to Braddock, East Pittsburgh and Rankin Branch of the Pittsburgh Chapter of the American Red Cross.

The work accomplished by this branch during the more than two years of active operation was the equivalent of that of the largest city branches. The following summary very inadequately epitomizes the heroic efforts and the sacrifices of the noble women who rendered incalculable service in this hour of the world's need: Surgical dressings made, 95,064; knitted articles, 19,018; hospital garments, 38,470; clothing collected for Belgian relief, 3,648; comfort kits, 1,652; Christmas packages mailed, 1,400; Christmas seals (record for one year only), 18,153; money collected, first drive, \$57,776.41; money collected, second drive, \$274,931.07; money received from other sources, \$64,457.23; total cash, \$397,164.71.

In the dark days of the autumn of 1918, when our boys were fighting across the sea three thousand miles from home, and the papers were scanned every hour for the list of fatalities, in trembling lest the list contain the name of a loved one, the community was scourged with an epidemic called, for want of a better name, the Spanish influenza, the most sudden, the most virulent, and the most baffling affliction this generation ever had to cope with. Notwithstanding the more than human energy the Red Cross forces had been putting into war work, the same women immediately laid plans to meet this new invasion. The Braddock Lodge of Elks gave over their temple to be used as an emergency hospital, and a diet kitchen was provided in the Masonic hall next door. For four weeks when the Braddock General Hospital was overcrowded, when many of the trained nurses had volunteered for army service, when the women had labored in regular Red Cross work to the limit of endurance, volunteers kept this emergency hospital working to its capacity. The diet kitchen not only served the needs of the hospital but in many instances where an entire family was prostrated, food was prepared here and sent by the hospital volunteer motor service to the homes. Following is a brief summary of the emergency hospital activities: Cases cared for in hospital, 71; cases cared for in homes, 123; volunteers for hospital work, 50; volunteers for home visiting, 10; volunteers for diet kitchen, 18; volunteers for hospital motor service, 7.

In Liberty Loan subscriptions as in every thing else pertaining to the war, Braddock did all that she was asked to do and more as the subjoined table will indicate. It will be noted these are the figures only for the subscriptions passing through the local banks and do not include many very large subscriptions from corporations having headquarters in Pittsburgh and New York which were credited to those municipalities, though a good share of the money for the payment of such was produced by the local plants. The following shows the number and amount of subscriptions through the Braddock banks: First Liberty Loan, subscriptions, 8,072; amount, \$1,027,050; Second Liberty Loan, subscriptions, 7,929, amount \$1,752,050; Third Liberty Loan, subscriptions, 3,096, amount, \$1,638,100; Fourth Liberty Loan subscriptions, 16,462, amount, \$3,500,500; Fifth Liberty Loan, subscriptions, 15,899, amount, \$3,015,700; total, subscriptions, 51,458, amount, \$10,933,400; average subscription, \$2.125.

In 1867 the part of Braddock's Field then constituting the village was incorporated as the borough of Braddock, and Isaac Mills, Sr., was elected its first burgess. North Braddock and Rankin then had few inhabitants and formed part of Braddock township. The giant mills which

have been such an important factor in the development of the community were not yet built. Rankin borough was incorporated twenty-five years later than Braddock, in 1892, Dr. George A. Sloan, son-in-law of Thomas Rankin, for whom the borough was named, being its first burgess. North Braddock was made a borough in 1897, with Henry L. Anderson its first burgess.

Although this region is thus rich in historic incident, until very recently no serious attempt was ever made to mark the ground where these events transpired. Early in the year 1917 a plan was inaugurated for the semi-centennial celebration of the incorporation of Braddock borough. It was then realized that the same year was the twenty-fifth anniversary of the organization of Rankin borough, and also the one-hundred-seventy-fifth of the building of Frazier's cabin. An elaborate program was outlined for a week's festivities; committees were selected, a working body was appointed, and plans were well under way for the celebration in June. The History Committee arranged for the production of a book which should set forth the worth-while events of the locality, and for the erection of four historic tablets.

When war was declared with Germany in April of that year the jubilee was withcalled. Inasmuch as the History Committee had their work well in hand by that time and had gathered data deemed valuable and worthy of preservation, this committee was authorized to proceed with its work as outlined. Accordingly, the book was published in a beautiful volume, and four bronze tablets were placed marking as many spots of interest to the student of local history. Cuts of all the tablets are here reproduced. The first is placed on the concrete wall surrounding the Edgar Thomson Steel Works, and points out the location of Frazier's cabin and incidentally the spot where General Braddock's forces crossed the Monongahela river on the morning of the battle. The second indicates the farthest western point reached by Braddock's command when the French and Indians attacked the advance line; this tablet is situated on Sixth street, just above the Pennsylvania railroad, on a concrete pedestal constructed for that purpose. Tablet number three marks the spot known locally as Braddock's spring, now sewerred away and giving no surface indication. After being wounded, General Braddock was carried back to this spring, where he was given a drink before continuing the retreat. This tablet is to be seen on the concrete foundation of the Edgar Thomson Works offices. The fourth tablet commemorates the visit of Marquis de LaFayette to Braddock in 1825, and is placed on the house where the General was entertained.

For many years the exact location of the battlefield was a matter of dispute. This was because no intelligent effort had been made during the last century to check up available data with the grounds. Patrick MacKellar, the engineer of the Braddock expedition, who went ahead with the axemen and marked out the pathway through the wilderness, was requested by the surviving officers of the illfated command, to prepare for future reference a map of the battlefield. He drew up two plans which were later approved by these officers,—one indicating conditions when the battle began, and the other showing the English troops surrounded and in retreat. These maps were known and used by Parkman and other historians, but until quite recently no effort was ever made to harmonize the MacKellar maps with conditions and topography as they exist today. In 1909 Mr. Sidney Dillon, chief draftsman of the Edgar

Thomson Steel Works, now chief draftsman of the Carnegie Steel Company, stimulated by some researches then being made by Prof. John K. Lacock, of Harvard and Prof. (now Congressman) Henry W. Temple of Washington, Pennsylvania, made a composite map, laying the MacKellar drawings on a chart of Braddock and North Braddock boroughs, thereby discovering exact locations which harmonize well with both the facts of history and the traditions handed down from early settlers before the topography of the place was changed by cuts and fills.

Braddock borough occupies the comparatively level tract of land between the foothills and the river. Here is to be found the chief business section of the community, including the principal stores, the banks, the office buildings, the places of amusement, and many of the lesser industries; also the civic center as represented by the Post Office, the Carnegie Free Library, and the General Hospital, each of which belongs to and administers to the entire community. North Braddock is largely a residence section occupying the hillsides, but, strangely enough, has within its corporate limits, the Edgar Thomson Steel Works, the largest industrial plant of the vicinity. This plant alone is sufficient to bring the valuation of North Braddock up to a point even beyond that of Braddock, and pays more than a third of the borough's taxes. Rankin lies just west of and adjoining Braddock. It has a number of important works, making its valuation per capita even greater than that of North Braddock and is reckoned as one of the richest boroughs in the United States.

Each of these boroughs has its own municipal building and its own fire department. The fire department of Braddock is fully paid; the others are volunteer, with paid supervision. All of the streets and most of the alleys of all three boroughs are paved and sewered. Braddock owns its waterworks plant, a valuable property that might easily be marketed for enough to pay all the municipal indebtedness.

That these three boroughs, one economic center, represent a large concentration of wealth is evident from the taxable values as noted under the 1920 census: Braddock, population, 20,879; valuation, \$13,791,000. North Braddock, population, 14,928; valuation, \$15,239,960. Rankin, population, 7,301; valuation, \$8,270,030. Total, population, 43,108; valuation, \$37,300,990.

In time past, this region was largely devoted to mining. The hills were rich in bituminous coal which was mined and transmitted by gravity to the river, where it was loaded on barges and floated down to Pittsburgh, to Cincinnati, and even to far New Orleans. In the early 80's the large mines were worked out and the shipping of coal was abandoned. Small veins and unworked patches are still operated locally, and during the economic difficulties incident to the World War these country mines, so called, contributed no insignificant amount to the general welfare.

In the matter of transportation facilities, Braddock has a position excelled by but few large cities. First is the Monongahela river which carries every year an enormous tonnage. Much of the coal, coke and limestone used in the immense Braddock steel mills is brought down this river from points nearer its source, and barges loaded with finished steel are sent to interior points from here.

Braddock is on the main line of five of the greatest railway systems: The Pennsylvania, the Baltimore & Ohio, the Pittsburgh & Lake Erie, a part of the New York Central, the Pittsburgh, Bessemer & Lake Erie,

and the Western Maryland. It is also on the Union railroad, which is an interplant line connecting the several works of the Carnegie Steel Company's interests. These roads furnish to this community unsurpassed facilities for shipping in and out, while hundreds of passenger trains daily provide means of travel for the thousands of men employed in the local industries. The electric trolley system adds to the convenience of those living at some distance from their places of labor or of business. Five separate routes connect this community with Pittsburgh and its environs, besides one line distinctly local.

This region is thoroughly equipped in the things that make for civic betterment. Each of the three boroughs has its own public school system. Braddock borough has five large modern school buildings, with from twelve to twenty rooms each, and employs nearly a hundred teachers. It has a splendid new high school building provided with gymnasium, laboratories, and mechanical appliances for all departments, and a large junior high school for pupils of seventh and eighth grades. It also conducts a continuation school for working boys and girls between the ages of fourteen and sixteen, and an evening school for adult foreigners, both men and women. Manual training and domestic science have been features of Braddock schools for many years.

North Braddock has five large school buildings, including a high school and junior high school, altogether requiring the work of seventy or more teachers. One feature developed here somewhat out of the ordinary is a vocational school for boys in their early teens.

Rankin is provided with three modern school buildings, one of which contains a large auditorium used for assemblies and public entertainments. This borough has some forty teachers. It conducts a free kindergarten as a part of the school curriculum, but has no high school, sending the pupils of this grade to the high school of Braddock or of North Braddock, either of which is within convenient walking distance.

Braddock and North Braddock conduct summer playground activities with classes in elective subjects, instruction in handicraft, directed play, folk dancing and other games. The Edgar Thomson Steel Works cooperating with the school authorities provides outdoor moving pictures in summer evenings at the school grounds, free to all people in the neighborhood.

In addition to these public schools there are a number of parochial schools for the earlier grades and one offering a complete high school course.

Greer's Business College, a high grade school of its kind with a history of twenty-two years of successful experience, is located here. This school offers splendid chances to the young man or woman who has got out of step with his class, giving him electives in work that fits him for special positions. It is also appealed to by persons of more mature years who have found need in their daily occupations for a better grounding in business fundamentals.

The community is well churched, being supplied with more than forty places of worship, including a few missions. Most of the orthodox Protestant denominations are represented, several having two distinct congregations. There are many Catholic churches, some of them having large parishes. Not only are there churches for English speaking congregations, but there are five or six that minister specially to the foreign born, conducting services in the native language of the parishioners,

among which are Slovak, Greek, Italian, Polish and others. There are also two Jewish synagogues, and a number of churches for people of the colored race.

The oldest Protestant congregation in Braddock is the First Christian Church, founded about 1830, followed soon by the United Brethren in Christ, the Methodist Episcopal, the United Presbyterian, the Presbyterian, the Baptist, several branches of the Lutheran church, the Episcopal church, and other denominations as population increased.

The first Catholic church was St. Thomas' Roman Catholic Church, built in 1860, though the congregation had previously worshiped for several years in a small chapel on Tara Hill on the other side of the river. St. Joseph's Roman Catholic Church followed in 1877, and a little later St. Brendan's Roman Catholic. Among churches for people of overseas birth may be mentioned Sacred Heart Roman Catholic, Polish, SS. Peter and Paul Greek Catholic, St. Michael's Roman Catholic Slavish Church, Russian Orthodox Greek Catholic, St. Paul's Slovak Evangelical Lutheran, St. Mary of Mt. Carmel Italian Church, and St. Michael's Greek Catholic Church in Rankin.

In Braddock is located the Braddock General Hospital. Opened for the admission of patients June 27, 1906, a small hospital with inefficient and inadequate equipment, capable of housing scarce thirty patients, it has twice had wings added to the primary building each larger than the original plant; it is now equipped with one hundred twenty beds and is capable of administering to a large share of the suffering community in the event of emergency, having taken care of one hundred forty cases at a time. It has a very complete laboratory with an expert pathologist and a trained technician in charge, as well as two resident physicians; a complete electrical outfit with the latest and best apparatus for X-ray work, with a skillful roentgenologist caring for this department; up-to-date operating rooms where both major and minor operations are performed daily, septic cases being carefully segregated. The hospital also conducts a recognized school, three year course, for nurses, whose graduates, eight to twelve each year, are regularly certificated and are endorsed by the Pennsylvania State Board of Licensure. The hospital annually receives State support apportioned by the State legislature.

This institution is managed by a board of fifteen persons, five of them Doctors of Medicine, five ladies representing the Ladies' Auxiliary, and five business men of the community. The hospital staff is made up of nine local physicians and surgeons, each assigned to a special field. In addition to these any reputable practicing physician is permitted to bring his private patients here for care and treatment. The work of the hospital is under the direct supervision of a superintendent, with a complete corps of competent helpers including assistant superintendent, directress of nurses, operating room nurse, night superintendent, laboratory technician, dietitian, bookkeeper, clerks, and a large body of student nurses and house help.

From contemporary publications it is learned that talk of a library for the steel workers of Braddock was begun as early as 1881. The foundations for the Carnegie Free Library of Braddock, Pennsylvania, the oldest Carnegie Library in America, were laid in 1887. It was not until late in 1888 that the building was ready for occupancy. On December 14, 1888, the first library board was organized, and books began to cir-

culate in March, 1889. During that year it circulated 18,738 volumes, and started the new year 1890 with 4,134 books on its shelves.

The library was formally dedicated and turned over to the people at a public meeting attended by more than two thousand, held in Leighton's Rink (the library auditorium was not built until 1893) on the evening of Saturday, March 30, 1889. On that occasion Mr. Carnegie made an address of considerable length, a few brief quotations from which are here given. The event may be considered epoch-making in that it marked the beginning of the Carnegie library movement with all its wide-reaching influences. This address was later published in full in pamphlet form, and is entitled, "An address Given at the Dedication of the Edgar Thomson Works Library." Mr. Carnegie said:

I hand this library over to you and your successors forever. I have no desire to accumulate more money. We will never be the first to reduce labor. We never have been. The fatal enemy of labor is labor, not capital. I may be ranging the earth, but my heart must ever be directed to the home of my youth, and my thoughts to the prosperity of those industries in which I have not been afraid to invest, and am not now afraid to let my capital remain.

I trust you will not forget the importance of amusements. I hope the room upstairs is to be provided with all the means possible for the playing of a game of billiards and so forth, and for gymnastic exercises. Life must not be taken too seriously. We must have our hours for laughter and frolic. It is a great mistake to think that a man who works all the time wins in the race. Have your amusements. Lean to play a good game of whist, a good game of draughts, or a good game of billiards.

I venture to predict that when generation after generation shall have passed away, this library will remain and be recognized as a center of light and leading; a never-failing spring of all good influences; and perhaps it may serve to remind the generations that are to come, that the duties of capital towards labor, even in this age, are not altogether forgotten.

Fellow workmen, I now hand over the library to you and your successors forever.

All that there is of library development is comprehended in the last third of a century, covering the period that the Carnegie Free Library of Braddock, Pennsylvania, has been ministering to the public needs. When the foundations of Braddock Library were laid in 1887, there were only 2,981 libraries in this country, and of these only 649 were free to the public. Of the whole number, 440 had between 5,000 and 10,000 volumes each, 353 had between 10,000 and 50,000, and only 47 libraries in the entire country possessed more than 50,000 volumes.

When Braddock Library was built there were no free libraries in Pennsylvania, there being no statute even permitting a free library to be supported by taxation. The first enactment legalizing such a tax levy was passed in 1887, and was applicable only to cities. Even so, the levy was permissible only for maintenance of an existing library, but not for erecting a library building. It was not until 1895, six years after the Braddock library began circulating books, that the universal library law was enacted making it legal for a borough or school district to build, equip, and maintain a free public library at the expense of the taxpayers. At that, Pennsylvania was not far behind most other States, for in 1887 it was one of twenty States that had library laws of any kind; and its law of 1895 was the most liberal and the most far-reaching of any that had been enacted in any State up to that time, and this law was used as a model by other States for many years.

The period covered by this library's history has witnessed many other changes that have been revolutionary in this field. The library

school, the card catalogue, the trained librarian, uniform systems of record keeping and classification, library indexing, open shelves, children's libraries and children's librarians, coöperation of library and school, State Free Library Commissions, State Library Associations, all of these have had their origin and development within the last third of a century, while the American Library Association, the one force that has been the most potent instrument of all for the development and unification of library work, created in 1876, has done all of its important work within the time limit named. Thus Braddock Library can say as did Aeneas of old, "All of which I have seen, part of which I was."

On April 29, 1914 the Library held its silver jubilee commemorating its twenty-fifth year of active work, and coincidentally the twenty-fifth anniversary of the Carnegie Library Movement in America. Mr. Carnegie was present for that celebration, his last trip to the scenes of his early struggles and triumphs, and spoke with much feeling of his former associations. Among other things he said: "I do not know how every one thinks about the way I spend my money, but I'm willing to put this library and similar institutions against any other form of benevolence. It's the best kind of philanthropy I can think of, and I'm willing to stand on that record. This is a grand old world and it's always growing better. And all's well since it is growing better. And when I go for a trial for the things I have done on earth, I think I'll get a verdict of 'not guilty,' through my efforts to make the earth a little better than I found it."

The Carnegie Club, under the same management as the Library, occupies a part of the building, but is a distinct and separate feature. The Club represents one of the earliest efforts of a great industrial plant to provide healthful and sane amusement and recreation for its employees. It was first conceived as a coöperative organization for procuring household supplies at lower cost. The mercantile feature was soon abandoned and the Club became a place for social recreation and physical development exclusively. Started as a Club for Carnegie employees only, all restrictions have long since been removed, and any one wishing may now acquire membership regardless of residence or occupation. The Library is entirely free to every one. The Club is for its members only, and from these a membership fee is exacted, the charge being insufficient, however, to meet running expenses but for outside help. The Carnegie Club is conducted somewhat on the plan of a Y. M. C. A., but with a difference. It does no distinctly religious work. It admits ladies to membership. At another point the Club differs radically from a Y. M. C. A., in that it demands no certificate of character or other recommendation as a prerequisite to membership, the management holding the view that application is the evidence of the individual's need of the Club's help. In this way a class of men is reached who would be scared away from an organization of more rigid requirements. As a result of this liberal policy, the morale of the membership may be and doubtless is somewhat lowered, but the assistance is rendered where the want is greatest.

The building is further provided with a Music Hall having a seating capacity for a thousand, a splendid organ, and a large stage with suitable curtains and scenery. This hall is used for meetings of a general character, lectures, concerts, school commencements, amateur theatricals, and any thing in which the public as a whole is interested.

This institution has been a pioneer in many fields, blazing the way

and profiting by its own mistakes. Built ahead of the time of modern library architecture, its plans are none of the best. One of the first to recognize the value of physical and social betterment as well as intellectual, it developed many club features years in advance of other industrial communities. It was extending the privileges of evening classes to foreign born men a decade before the State law provided evening instruction for adults at public expense, and before the word "Americanization," now so widely used, was coined. With its books, magazines, pictures, and charts, its gymnasium, game rooms, baths and swimming pool, its large auditorium, it is a true community center for the seeker after information, the one desiring social relaxation or physical improvement, or the great crowd in search of pleasure and entertainment.

In its banking facilities and financial institutions Braddock occupies a position that might well be the envy of a city many times larger. It is doubtful if its equal can be found anywhere. It would seem paradoxical, not to say untruthful to remark that one of Braddock's banks has more depositors than the entire population of the town, yet such is exactly the case. Braddock borough's population is a little short of 21,000, while the Braddock National Bank alone has more than 23,000 depositors. In all, there are five banking houses doing business here, two of the national banks, one State bank, and two trust companies, all located within less than a half square. All of these, successful from their first day of doing business, have within the last few years doubled and tripled their resources. Braddock banks take care of the little people. The man who has but a few dollars to deposit receives the same courteous treatment, the same care, the same sound advice as to investment as does the one with a large account.

Time was, and not so many years ago, when men from foreign countries coming to America and earning money to send back to their families had great difficulty in securing foreign exchange. Private individuals, posing under the sign "Foreign Exchange Bank" or other equally euphonious and misleading title, handled the greater part of this business, and the "breaking" of these banks was a common occurrence. And many a hard-working man has paid his money into these wildcat institutions to bring his family to America only to find after weeks and months of anxious waiting, that his family had never received the money, and that the "Foreign Exchange Bank" had collapsed and the "banker" had disappeared between days. The Braddock National Bank was the first in the country to take up this foreign exchange business systematically, and it wrought a complete revolution in the method of handling foreign accounts. The banks of Braddock, by employing clerks and tellers who can speak to the men in their own foreign tongue, whatever part of the world they may be from, and by scrupulous care in the handling of their accounts, regardless of the amount of money involved in the transaction, have put all the fly-by-night private banks out of business. In consequence, day laborers, foreign as well as native born, by the thousands, carry a bank account; and they have come to look to their banker as financial adviser just as they look to their pastor for spiritual counsel.

The natural result of this sympathy and fair dealing between the banks and their clients has been to create a total deposit in all the financial institutions located here all out of proportion to the size of the com-

munity. Where else in the world is there a city of forty-five thousand inhabitants that can show a total bank deposit of over twenty-three millions of dollars—five hundred dollars for each individual? Even the children are encouraged to start bank accounts, and school deposits and holiday savings clubs are systematically promoted and fostered. Many banks do not care for the small depositor, for such business is handled frequently at an actual loss to the bank but for the fact that larger things develop from these small beginnings. The Braddock banks have learned from experience "Once a depositor always a depositor."

Most city banks and many in small places close the week's business at noon on Saturday. Braddock banks are open on Saturday evenings from 6.00 o'clock to 9.00, and this period is like a rush hour at a bargain counter in a department store. It is not unusual to see a line of depositors in front of the receiving teller's window like that before a moving picture house when the latest thriller has been extensively advertised. The bank clerks and officers work more hours and more continuously than do the men in the industrial plants.

Every banking firm in Braddock owns the building in which it is housed. The most elaborate is that of the Braddock National Bank and the Bessemer Trust Company. This is a magnificent edifice of Grecian architecture with huge granite columns, conspicuous among the handsome bank buildings of the world. It has a frontage of sixty feet on Braddock avenue, extending back one hundred twenty feet, is only one story in height, being forty feet from the floor to its vaulted and beautifully decorated ceiling. Not only is it one of the most substantial buildings of its kind, but it is really a work of art and beauty, reminding one of the line by Keats, "A thing of beauty is a joy forever."

During the early days of banking in this country it was not considered ethical for a bank to advertise. Many years ago the Braddock National Bank started a publicity campaign of education which has been continued until the present time. By booklets and pamphlets, personally distributed, the bank urged upon its customers the value of thrift and the benefits of industry and economy. The good results flowing from this kind of educational advertising are now recognized and made use of by every banking and financial institution in the country.

In the year 1909 the Braddock National Bank had a capital of \$100,000; and surplus and undivided profits of \$600,000, making the book value of its stock 700 per cent, and placing it seventh in the United States on the Roll of Honor Banks as compiled by the Comptroller of the Currency in Washington, D. C. In that year a stock dividend of one hundred per cent was declared, making its capital stock \$200,000, with a surplus of \$500,000. Since that time more than \$350,000 has been added to the surplus fund.

The first financial organization of Braddock was the Braddock Field Trust Company, incorporated January 1, 1873. This was later merged into Braddock National Bank, which was chartered November 28, 1882. Meantime the First National Bank was chartered October 4, 1882, thus giving opportunity for friendly rivalry between these two banks, as now constituted, as to which is the "oldest Bank." Braddock Trust Company, affiliated with the First National, was organized in January, 1901, and began business the following May, originally called the People's Trust Company, later changed to Braddock Trust Company. The Bessemer Trust Company, under the same management as the Braddock Na-

tional Bank, was incorporated November 22, 1905. Both of these Trust Companies do a large business in the handling of trust funds, the settling of estates and the placing of long time mortgages which is not the legitimate function of a National Bank.

The State Bank of Braddock received its charter July 1, 1897, and opened for business July 17 of that year. Its deposits at the end of the first year amounted to \$102,119.67. Its resources today (1921) are fifteen times that amount.

In its history, Braddock has had two other chartered banking institutions,—the Union National Bank, which began business June 1, 1903, and the Citizens' Bank of Braddock, organized June 5, 1903. In 1905 the Citizens' Bank went into liquidation and was taken over by the Braddock Trust Company. The Braddock Trust Company also bought up the Union National Bank in 1907.

The present standing of these five banking companies may be discovered from their latest published Statements:

STANDING OF BRADDOCK BANKS AND TRUST COMPANIES AS AT JANUARY 1, 1921.

	<i>Capital.</i>	<i>Surplus and Profits.</i>	<i>Other Resources.</i>	<i>Deposits.</i>	<i>Total. Resources.</i>
Braddock National..	\$200,000.00	\$864,837.39	\$185,300.00	\$12,026,289.74	\$13,276,427.13
First National	100,000.00	231,571.26	115,329.86	3,329,409.91	3,776,311.03
State Bank	50,000.00	69,411.38	5,000.00	1,409,224.05	1,533,635.43
Bessemer Trust	125,000.00	194,414.25	1,983,870.33	2,303,284.58
Braddock Trust	125,000.00	263,635.09	340,145.64	1,860,724.07	2,589,504.80
Total.....	\$600,000.00	\$1,623,869.37	\$645,775.50	\$20,609,518.10	\$23,479,162.97

In its mercantile and commercial development, little can be recited to differentiate Braddock from other similar communities. For more than half a century this has been a manufacturing rather than a commercial center, and previous to the building of its factories its chief industry was mining in the hillsides and farming on the level land near the river. With the growth of population from rural to village and from vilage to a city of 45,000 inhabitants, (the total of the three boroughs) the mercantile pursuits have kept pace with the population. The general store has given place to the specialized shop, and the shops have been gathered again into the department store. Braddock has gone through all these phases of merchandizing, and today has the large department store, the special grocery, hardware, shoe, clothing, millinery, jewelry, furniture, bakery, cigar and tobacco, and drug store. With its large foreign population it had, until the adoption of the Eighteenth Amendment, its full share and more of saloons, but the last year has witnessed great improvement in this regard, since many of the buildings formerly used for dispensing liquors have been turned into more productive lines of industry. Within recent years the chain stores have made their appearance, and many strategic corners are now managed by these large corporations. Braddock also has the wholesale grocery and wholesale branches of the great packing houses.

The city has a well organized Board of Trade with a paid secretary, and has been instrumental in the accomplishment of much that makes for civic betterment and in bringing about improvements that have been for the good of the entire community. Among the things that have been brought to pass which never would have been done without its aid, may be instanced the founding and erection of the Braddock General Hospital,

the tunneling under the Pennsylvania railroad at Copeland and at Verona streets, the opening of the Fritzius Ball Park. Rankin borough has its separate Chamber of Commerce that gives special attention to the civic conditions of that borough.

The first industrial plant of this section was a barrel factory which also made chairs and furniture of the rougher sort. It began operations about 1850, founded by a Mr. Soles and others of Scotch descent, who originally hailed from Massachusetts. In a short time John and Daniel Richardson purchased the business and started the Braddock saw mill and boat yard, located on the present site of the city's water plant. This firm later changed hands again and operations continued until 1878 when it was purchased by the borough of Braddock and the pumping station of the Braddock Water Works was located here.

In 1861, shortly after the beginning of the Civil War, the McVay-Walker Foundry was built in Braddock, and during the rebellion made many supplies for the Federal Government. Later this firm did much of the small casting work for the Edgar Thomson plant, and may well be called the mother of Braddock's steel and iron industries. In 1916, after an honorable career of fifty-five years under the same name, it was destroyed by fire and was not rebuilt.

Other planing mills and lumber companies have followed the lead of the Richardsons, and have been potent factors in the building of the shops and the mills, the stores and the houses of the city. The Dowler Lumber Company closed an honorable career of nearly a half century in 1912, upon the death of its president, Eli Dowler, and the retirement of his brother, Thomas J. Dowler. In 1887 the Braddock Planing Mill Company was established. Under different management and the name changed to the Braddock Lumber Company, this mill is still operating on a larger scale than ever, being now (1921) a very large and modern establishment. The Price & Alman Lumber Company, in business since 1887, under its present name since 1897, is another industry that has had much to do with local development. Another very successful corporation doing work in this line for thirty years and now operated by the sons of the original founders, is the McBride Lumber Company.

Closely akin to the lumber companies are the men engaged in the building industry. The George Hogg Company in past years was responsible for the erection of some of the large buildings of this section, among which may be mentioned the Westinghouse plant at East Pittsburgh, and the Masonic Temple in Pittsburgh; Carnegie and Henning subdistrict schools of Braddock, and the North Braddock high school.

Of later years the Hodder Construction Company has been prominently identified with building promotions. This firm is thoroughly equipped to undertake any construction contract, large or small, from foundation to completed building. A proposition cannot be too small or too large to engage their attention, whether it be a chicken coop or a rabbit hutch, or a vast theater or church, or a half-million-dollar high school building. Such is the reputation of this firm for honesty and industry that whether times are hard or prosperous, they always have work to do.

The most important contracting firm of this region is the McCrady Brothers Company. The head of this firm began the hauling business as a young man a half century ago. He did much of the heavy team work for the construction of the first mills of the Edgar Thomson Works

in the early 70's. The firm has expanded with the community, dealing in lime, coal, sand and cement, and doing heavy hauling and team work, now employing forty or more teams and a fleet of thirty trucks, large and small, and in favorable weather conditions hundreds of men on big contracts. Of late years the grading and concreting of highways has been an important item in this Company's work, and with their powerful steam shovels and ponderous steam rollers, and their camps of workmen they are prepared to handle the most extensive contracts the State, the county, or the municipality has to offer. Like other Braddock corporations, McCrady's have never forgotten the little people; and an order for a load of coal, a sack of cement, or a peck of lime, is attended to as cheerfully and promptly as is a contract involving many thousands of dollars.

Industries closely allied to the building trades are those for the production of materials for construction. One of these is the manufacture of brick. In 1894 the firm of Keller & Milliken began here the making of brick for the home market, and has continued in constant operation ever since. They now employ some twenty-five men, and produce from three to four million high grade brick per year.

The Crown Wall Plaster Company is another Braddock corporation which does business on quite an extensive scale. Founded in 1897, this Company has had a continuous and prosperous existence for a quarter century. The present plant has a capacity of one hundred tons of wall plaster per day. They do a business on both a retail and carload basis.

Braddock Laundry Company was started as Alexander Brothers' Laundry in 1895. In 1912 it was taken over by the present management and has since been operated as the Braddock Laundry Company. It now furnishes employment to some forty persons, requiring the services of five delivery wagons and six trucks, and does a business of \$2,000 to \$3,000 weekly.

In 1891 the Conneaut Lake Ice Company began operations here, handling lake ice. In 1896 this Company was taken over by the Diamond Ice Company which has operated under this name continuously since. It still handles lake ice, but now has a large plant for the manufacture of artificial ice in quantities, from its own artesian wells drilled in the gravel beds beside the river. The gravel and sand act as a natural filter bed. The Company also produces pure distilled ice which after distillation is aerated and made potable. By means of these artificial appliances the Diamond Ice Company is not dependent on a severe winter for its supply but is abundantly able to cover its field regardless of weather conditions. Forty employees are engaged in the production and handling of this necessary commodity.

The Duquesne Forge, an important industry of its day, began operations in Braddock in 1882, being moved here from Duquesne Way, Pittsburgh. The river transportation was of great importance, in those days, as it still is, and the Forge made all sorts of boat and ship supplies, such as stanchions, shanks, shafts, chains and gears, some of the forgings weighing as much as 100,000 pounds. During the Spanish-American war this firm made for the Government some 300 cannon, weighing 25,000 pounds each. This property was absorbed in 1905 by the McClintic-Marshall Company.

The McClintic-Marshall Construction Company is one of the large plants of this industrial center, employing at capacity one thousand

or more men, and occupying twenty acres of ground. Here were built the enormous gates for the Panama Canal locks. With its extensive stock yards traversed by large traveling cranes electrically driven, all its machinery and equipment the best obtainable and thoroughly modern, cranes that lift girders of ninety tons weight and load them on cars, this company is known all over the country as the largest independent manufacturer and erector of bridges and buildings in the United States.

The Sterling Steel Foundry constructed in 1901, is a plant, small when compared with some of the mammoth concerns of this district, but, as its name indicates, of very substantial value and influence. It has a very desirable location on the banks of the river. It employs some three hundred men, and puts out monthly 1,500 tons of steel castings of the highest grade.

One of the latest steel industries to locate here is The Pittsburgh Machine Tool Company, built in 1911. This plant gives employment to a hundred men. It contains a thoroughly modern and up to date equipment of machine tools, such as lathes, shapers, planers, milling machines, etc., and turns out engine lathes and Curtis Rotary pumps to the value of \$300,000 annually.

The Acheson Manufacturing Company of Rankin was incorporated February 26, 1906, under a Pennsylvania charter by which it has since been operating. In its organization it took over the manufacturing end of the Mansfield Manufacturing Company and the Bailey Farrell Company which had previously been consolidated under the name of the Bailey-Farrell Manufacturing Company. The first officers of the new corporation were President, G. R. Acheson; Secretary, H. R. Weber; Treasurer, F. C. Robertshaw; General Superintendent, F. W. Robertshaw. Since the death of Mr. Acheson, December 7, 1913, the business has been under the management of Messrs. Weber and Robertshaw.

The Acheson Manufacturing Company has holdings of two acres of land in Rankin borough, three-fourths of which is occupied by the buildings of the plant. It manufactures plumbers' brass goods, devoting particular attention to brass fittings and plumbers' specialties. This Company engages the services of a hundred men and is regarded as one of the substantial small manufacturing establishments of this region.

About the year 1900 the Standard Chain Company began operations in Rankin. In 1917 this Company was absorbed by the American Chain Company, Inc., and the plant continues to operate as a part of the greater concern. The Rankin mill produces chains and forgings. Wrought iron and steel chains up to one and one-half inch are turned out for hardware dealers and for the use of railroads, and forgings for automobile manufacturers and for ship builders. When working under normal conditions this factory employs one hundred sixty men.

The Columbia Steel and Shafting Company, formerly the Columbia Bridge Company, began production in Rankin about twenty years ago. It occupies some three acres of ground. As its name implies, its specialty is the making of steel shafting and stock screws for automatic machinery. This plant employs normally about two hundred men.

The Consolidated Expanded Metal Company, which has offices in New York, Chicago, Philadelphia and Pittsburgh, produces metal lath and concrete reinforcement at the rate of 14,000 yards of lath and 100,000 feet of reinforcement daily at its Rankin plant. The concern started about 1890 as a puddling furnace, but this feature was soon abandoned

The growth of this industry has been steady and substantial and it now employs normally one hundred to one hundred fifty men.

A new industry was started in Rankin in 1915 on the organization of the Copper Clad Steel Company. As its name indicates, this firm produces copper clad steel wire and copper welds for the general trade. Though a new comer into this busy industrial hive this company has already reached the point where it commands the services of 250 to 300 men.

A local enterprise that has been subject to a number of reorganizations, each time with increased capital and enlarged capacity, is located in the lower end of Braddock borough, between Talbot avenue and the river. It was first launched in a small way, with a capital of \$3,000, as the Braddock Machine and Manufacturing Company, in 1899. Within a year its capital stock was increased to \$200,000. In 1902 its stock was bought up by some moneyed steel men and again there was a reorganization. Whereas the concern had up to this time been merely an iron foundry, the directors took steps at once to enlarge its capacity and changed it to a steel foundry with a 20-ton open hearth furnace, and made many additional improvements throughout the machine shop. In 1916 it again changed hands and was still further enlarged, recapitalized at \$300,000, employing from 200 to 300 men, and capable of doing a business of a million and a half dollars annually. It then became known as the Braddock Manufacturing Company and another 20-ton O. H. furnace was installed, together with other improvements. Still more recently other changes have been made, and it is now called the Wilson-Snyder Company. Very recently this firm has secured additional adjoining ground with the intention of still further expansion.

The American Steel and Wire Company has two large units in this district known locally as the Rankin Wire Mill and the Ninth Street Wire Mill. In 1884 the Braddock Tannery commenced operations in Rankin on the site of the present Wire Mill. In its best days it employed some sixty men and did a business of \$150,000 to \$200,000 yearly. Two disastrous fires, one in 1886 the other in 1893, finished the Tannery's career, so that it is now but a memory.

These Tannery fires were the occasion for the beginning of the Rankin Wire Mill, now an extensive concern occupying the Tannery site, a constituent part of the American Steel and Wire Company, which is itself a subsidiary of the United States Steel Corporation. After the Tannery fire of 1886, twelve acres of land were bought from that Company and the first wire mill known as the Braddock Wire Company was built. From 1896 to 1898 the plant was run under the name of the Consolidated Wire Company, and was one of the holdings which that spectacular Wall Street figure, John W. Gates, was later able to sell at a handsome profit to the United States Steel Corporation. The development of this plant from small beginnings may be traced from the following chronological table: 1886, Rod Mill; 1888, Galvanizing Department; 1890, Nail Mill; 1891, Fence and Barbed Wire Departments; 1892, Ware House; 1895, Rod Mill rebuilt; 1898, Galvanizing Department rebuilt; 1905, Nail Mill rebuilt; 1907, Boiler House rebuilt and enlarged; 1907, Warehouse rebuilt; 1912, Galvanizing Department rebuilt; 1913, Nail Mill rebuilt.

This Rankin plant is a very valuable and productive property manufacturing rods, wire, wire nails, staples, galvanized wire, annealed wire,

woven fence, barbed wire, and nail kegs, and employing at capacity some 1,250 men.

The Braddock Wire Plant of the American Steel and Wire Company was constructed in 1891 on five and one-half acres lying between the Pittsburgh & Lake Erie railroad and the river, at the foot of Ninth street. Its product is steel rods to be used in the manufacture of bolts, rivets and shafting, and steel wire. The plant at present consists of one Garrett Rod Mill, one 216 block wire mill, 16 annealing furnaces, one cold drawing department, one power house, machine shop, carpenter and other repair shops. While the original mill produced 90 tons of rods in twenty-four hours, the works today, employing 700 men, turn out 400 tons of rods and 340 tons of wire in the same time. The latest activities of this concern relate not to the production of more steel, but to the promotion of its welfare work among its employes and the residents of the community. That department has just thrown open to the children of the neighborhood a well-equipped playground.

The first of the Carrie Furnaces was built in Rankin in 1883, on a plat of 35 acres purchased from John Adams. The first blow was made February 29, 1884. A second furnace was erected in 1900. Later the Carnegie Steel Company, which had come into possession of this property, built two more furnaces in 1900, one in 1903, and two in 1905, making seven in all. The acreage for these furnaces has been increased from the original 35 to 66. This plant now employs 1,000 men and produces nearly a million tons of pig iron annually. These furnaces are connected with Homestead Steel Mills, across the Monongahela river, by what is known as the hot metal bridge, over which the metal in molten condition is transported in huge tank cars or ladles. When this work was first undertaken it was considered a wonderful feat of engineering.

In this survey we have now arrived at the one industry greater than any, indeed almost the equivalent of all the others combined, the Edgar Thomson Steel Works. The history of this plant has been told so often and recently so well by Mr Hugh P. Meese in the "Unwritten History of Braddock's Field," that all that is needed here—the merest outline—can be compassed in a few words.

In the summer of 1872, Andrew Carnegie was in Europe and learned how easily and cheaply Bessemer rails were being made there. Filled with enthusiasm for a Bessemer plant of his own, he returned to Pittsburgh and soon interested some other steel men in the enterprise. An option was immediately secured on 107 acres of land in Braddock along the Monongahela river, right on the Baltimore & Ohio railroad, and in close proximity to the Pennsylvania railroad, and late in that year work was begun on a wharf to handle the river freight. On January 1, 1873, the deal was completed when William Coleman, a successful iron rail manufacturer and real estate speculator of Pittsburgh purchased for himself and associates 61.7 acres from Robert McKinney and 45 acres from John McKinney, at a total cost of \$219,003.30. On this ground enlarged by later purchases and extensions, stands today the world-famous Edgar Thomson Steel Works.

The firm for the operation of the proposed plant, known at first as Carnegie, McCandless & Company was regularly organized January 3, 1873, the partners with their holdings being: Andrew Carnegie, \$250,000; William Coleman, \$100,000; Andrew Kloman, \$50,000; Henry Phipps, \$50,000; David McCandless, \$50,000; William P. Shinn, \$50,000; John

Scott, \$50,000; David A. Stewart, \$50,000; Thomas Carnegie, \$50,000 Capital stock, \$700,000.

The first blow was made August 26, 1875, and the first rail rolled with impressive ceremonies September 1, 1875. The tricky years following the panic of 1873 came close to causing the collapse of the infant industry. Only the genius of its management in reducing the cost of production a little faster than the selling price of its product fell, kept it going. Thus the selling price of steel rails fell from \$120 per ton in 1873 to \$42 in 1878. In 1875 it cost this Company \$57 per ton to make the rails. The selling price for that year was \$70, the first rails made being sold at \$80. But by ever-improved machinery and up-to-the-minute devices the cost of making the rails kept constantly lowering, so that the Edgar Thomson works was a money maker from the start. In its first productive year it showed a profit of \$41,970. In its sixth year, 1880, the profit was \$1,625,000.

This mill was originally built for the manufacture of steel rails. It was soon decided to erect furnaces for the production of its own pig metal instead of having to go into the market and buy this material. The first furnace, "A" was blown in January 4, 1880. A second furnace, "B," was blown in April 2, 1880, and a third, "C," November 6, 1880. Later, other furnaces were added from time to time until there are now eleven, all told.

On October 12, 1874, the firm of Carnegie, McCandless & Company dissolved into the Edgar Thomson Steel Company, Limited. Later it became Carnegie Brothers & Company, and on July 1, 1892, the Carnegie Steel Company was formed by a coalition of the Carnegie Brothers & Company, Limited, and Carnegie, Phipps & Company, with a capital of \$25,000,000. The Carnegie Steel Company became a constituent part of The United States Steel Corporation in 1901.

Under the greater corporation the local plant has continued to expand even more than formerly. One of the big developments of this giant industry was the construction in 1913-14 of the 14-furnace basic open hearth plant, which is the best open hearth plant in the country using coal for fuel and is conceded by electrical experts to be the best equipped plant electrically in the United States.

From what has been said it is easily discernible that the Edgar Thomson Works is the parent plant of the Carnegie Steel Company. The Homestead works, the Duquesne works, the Youngstown works, the Bessemer and Union railroads, the ore docks, on the Great Lakes, the mines and fleet of boats, as well as a number of lesser works, are all later developments. But it was here at Braddock that the foundation for the Carnegie millions was laid, and it is not surprising that the First Carnegie Library in the United States was built here for the employees of the Edgar Thomson Steel Works.

As is well known, the United States Steel Corporation has always resisted any attempts to unionize the men in its employ. The effort made in 1919 to bring all steel workers into the Union and the consequent steel strike, naturally was seriously felt in the Edgar Thomson Works. The inside history of that movement has yet to be written. When the strike started, the men—especially those from foreign countries, which means a great majority of the strikers,—didn't know what it was all about. They had received ten and fifteen per cent increases of pay not less than six times within a period of five years, and although

they didn't know it, another advance was pending at the time. They were then making unheard-of wages. They were advised that if they would join the Union immediately, the fee would be three dollars, but later it would be twenty dollars, and there was a great rush to join while the opportunity was good. The report of the Interchurch World Movement as well as the correspondents of several magazines making "investigations" said the strike was for shorter hours, meaning of course a shorter day. All such reports were written up after one side only, the strikers' side was heard. The office force, the heads of departments, the superintendents of the local plant, at least, were not interrogated by any of the "investigators." The fact is, that at no time did the men want a shorter day, but rather an eight-hour basic day so as to get time and a half for all over eight hours. Indeed, at the time of the strike and for a year afterwards, it was difficult to fill the strictly eight-hour shifts, men seeking the long turns. Thus a man works a ten hours day turn one week, a total of sixty hours, and a twelve hours night turn, or seventy-two hours the next week, making one hundred thirty-two hours in two weeks. With the eight-hour basic day, the ten-hour day counts eleven hours (time and a half for all over eight hours) making sixty-six hours for that week, and the twelve-hour day counts for fourteen hours, eighty-four hours the next week. Thus by being on duty for one hundred thirty-two hours for the two weeks, his pay envelope shows one hundred fifty hours of work. As pay is reckoned by the hour, the man put on an eight-hour shift and working five and one-half days, that is, forty-four hours per week, the schedule the agitators profess to demand, finds in his pay envelope at the end of two weeks remuneration for eighty-eight hours as against the one hundred and fifty hours' pay of the long turn man. This is not intended as a brief for the Steel Companies nor as an explanation of their attitude towards Union labor, nor yet towards the steel strike, but it is one phase of local history hitherto not dwelt upon by the "investigators" of the steel strike of 1919.

Not satisfied with past achievements or willing to rest on laurels already won, this immense industry is still facing the future, young in spirit, in spite of its record of half a century of work well done. The broken records, a habit of long years, of late have become so frequent as to be considered monotonous, and often a high production mark that has stood unbeaten for years is bettered one day only to be beaten again by the team on the next turn. Regardless of what has been accomplished in the past, some new device or some other executive can always do a little more, or do the same thing a little quicker or a little better. The policy of this mill has always been to have the best appliances, the latest machinery, the newest devices obtainable. And more than once a new equipment costing thousands of dollars has been scrapped, not because it would not do all that it was built for, but because some more recent patent had rendered the newly installed machine obsolete.

The Edgar Thomson Works has always looked after the physical welfare of its men. Mention has been made in connection with the history of the Carnegie Free Library and Carnegie Club of this feature of work pursued here long before such things were thought of in other places. From that early day to this, the superintendents and heads of departments have promoted sports and games in every possible way. Safety first methods have been adopted, guards and protective devices have been erected, and by lecture and illustration the men have been in-

structed to protect themselves and each other. A welfare department is carried on, and visiting nurses are sent to families of employees in distress. Very recently a plat of three acres has been secured and is laid out for an amusement park with ball grounds, tennis courts, and a running track and all possible devices for amusement and recreation. Not only is this field for the benefit of the 8,000 men employed at the works, but it is a recreation center for the entire community.

When all is said, the great success of the Edgar Thomson Works is largely due to the men who have guided its activities as superintendents. All told, six men have occupied this position: Captain William R. Jones, from its inception in 1873 until his untimely and tragic death while in the performance of duty, September 28, 1889; Charles M. Schwab, later the first president of the United States Steel Corporation, from October 1, 1889, to September 30, 1892; James Gayley, from October 1, 1892, to February 28, 1895; Thomas Morrison, from March 1, 1895, to May 31, 1903; Charles E. Dinkey, from June 1, 1903, to March 31, 1920; O. J. H. Hartsuff, from April 1, 1920, to date.

CONSPECTUS OF BRADDOCK INDUSTRIES.

DEFUNCT OR ABSORBED.

Soles Barrel Factory.
McVay-Walker Foundry.
Sheekey's Tannery.
Richardson's Saw Mill and Boat Yard.
Dowler Lumber Company.
George Hogg Contracting Company.
Duquesne Forge.
Dawes Manufacturing Company.

GOING CONCERNS.

<i>Plant.</i>	<i>Established.</i>	<i>Number Men Employed.</i>
Braddock Lumber Company	1887	15
Price & Alnan Lumber Company.....	1887	33
McBride Lumber Company.....	1892	20
Hodder Construction Company.....	1906	50 average
McCrary Brothers Company.....	1872	100 to 300
Keller & Milliken.....	1894	25
Crown Wall Plaster Company.....	1897	7
Braddock Laundry Company.....	1895	40
McClintic-Marshall Company	1905	1,000
Sterling Steel Foundry Company.....	1901	300
Pittsburgh Machine Tool Company.....	1911	100
Acheson Manufacturing Company.....	1906	100
Standard Chain Company.....	1900	160
Columbia Steel & Shafting Company.....	1901	200
Braddock Machine Company—Now Wilson & Snyder Company	1898	300
American Steel & Wire Company— Rankin Plant	1886	1,250
Braddock Ninth Street Plant.....	1891	700
Consolidated Expanded Metal Company.....	1890	150
Copper Clad Steel Company.....	1915	300
Carrie Furnaces	1883	1,000
Edgar Thomson Steel Works.....	1872	6,500
Diamond Ice Company.....	1891	40
Rankin Car Barns (Phg. Rwys. Co.).....	1891	398 (No. Cars 127)

Other Boroughs—In the coal and natural gas region ten miles south of Pittsburgh on the Monongahela river, is the borough of Glassport.

The population of the borough is in the neighborhood of ten thousand souls, who find employment in the steel and glass manufactures for which it is noted. Here is located the principal glass works of the United States Glass Company, incorporated in 1891 for the manufacture of pressed and blown glassware. This corporation controls in the Pittsburgh district ten plants, and has also glass factories in Tiffin, Ohio and Gas City, Indiana. It built up and improved Glassport, where it controls the Glassport Land Company.

The Pittsburgh Steel Company, incorporated for ninety-nine years July 1, 1900, with a common and preferred stock of \$17,500,000, manufactures pig iron, blooms, billets, wire rods, wire nails, staples and fencing hoops, cotton ties, etc. Its plants are located in Glassport and Monacaan, with general offices in Pittsburgh, and controls the Monacaan Coal and Coke Company; the Standard Land and Improvement Company; the Pittsburgh Perfect Fence Company, Limited, of Canada; Pittsburgh Steel Ore Company; Pittsburgh Steel Sales Company and Monacaan and South Western Railroad Company. The Pittsburgh Steel Foundry, incorporated in 1899, has a capacity of 24,000 tons annually. The Pittsburgh Steel Hoop Company, Pittsburgh Equipment Company and Allegheny By Products and Coke Company are thriving industries.

Glassport was incorporated as a borough in 1902, from a part of Port Vue borough. It is divided into three wards. It has an excellent system of graded and high schools, two Catholic churches, a Presbyterian, Methodist Episcopal, Baptist, Lutheran and Free Methodist congregations. The Glassport Trust Company is the important financial institution.

Elizabeth is the oldest settlement on the Monongahela river with the exception of Pittsburgh. Its original patentee was Daniel Monroe, in 1769. The site of the present borough was purchased in 1784 by Colonel Stephen Bayard, a romantic character of the Revolutionary War, who had married Elizabeth, a daughter of Colonel Aeneas Mackey, the commander at Fort Pitt at the time of his daughter's marriage in 1767. Colonel Bayard laid out the village and in honor of his wife named it Elizabethtown. In the early part of the nineteenth century it became a rival of Pittsburgh in boat building and launching of steamboats. Two keel boats were built for the Lewis and Clark expedition; also the "Monongahela Farmer" was built by John Walker. The first steamboat was launched in 1824, and named in honor of the naval hero, Commodore Stephen Decatur. Boat building continued to be carried on as late as 1865, when it gave way to the coal trade.

There were less than a score of houses within the limits of the village in the fall of 1815, when Samuel Cooper opened a general store. The first school house was erected in 1818, a brick structure, and school was taught by Washington Robinson. The religious life of the struggling village was ministered to by the Rev. James Finley, at the Round Hill Presbyterian Church, organized in 1778; he commenced his labors in 1785, continuing until his death in 1795. A second church was built in 1819, a third in 1885. The first Presbyterian church built in the borough was in 1851. The Methodist Episcopal denomination erected in 1838

a small church on a lot adjoining; its successor was dedicated May 10, 1885. The First Baptist Church was organized with sixty-five members, September 17, 1842; the congregation built its first place of worship in 1842, and twenty years later a new edifice was erected. St. Michael's Roman Catholic Church was built in 1851. The Monongahela Covenantanter congregation in 1838 built about a mile from the boundaries of the borough a church in 1865. Another building was afterwards erected in Elizabeth. The Methodist Protestant congregation was organized in 1863 and built a church the following year. The African Methodist Episcopal Church was dedicated July 16, 1871.

The borough was incorporated April 5, 1834, the location of the site, which the residents have embellished by first class improvements, fifteen miles from Pittsburgh, with an estimated population of 2,500 souls. The first attempt to establish a school of high grade was made in 1848 by Miss McFarland, of Canonsburg. The early financial institution was the Elizabeth Savings Bank, which conducted a general banking business in the seventies of the past century. The present monetary institutions are the First National Bank of Elizabeth and the State Bank of Elizabeth. The borough was formerly connected with West Elizabeth by a steam ferry, which was replaced by a bridge more than twenty years ago.

The present day Elizabeth, since the days of steamboat building passed away, has no manufacturing industries worthy of mention. It is true that the Pittsburgh Coal Company maintains a factory for the repair of its coal barges, that gives employment to a few of the inhabitants. The borough makes a presentable appearance, having many modern improvements, including a movie theatre. The five church societies are well housed, and the brick schoolhouse bearing the date 1852, with an annex larger than original building on an adjoining lot, are architectural ornaments.

The village of West Elizabeth was laid out in 1833, and a borough incorporated May 3, 1848; the original patentee of the site was Thomas Robinson. At the time of organization a school board was established. The industries of the community at this time were increased by the erection of a saw mill by Eli Bentley; this stimulated boat building, which was continued by various parties until 1852, when it gave place to the mining of coal, that had been developed at the lower end of the borough since 1840. A schoolhouse was completed and ready for occupancy in 1861 to replace the one erected in 1837. On the establishment of a post-office in 1845, Erastus Percival became the first postmaster. In the fall of 1873 the Pittsburgh, Virginia and Charleston railroad completed its line to the borough, which three years later had a population of one thousand.

The location of the borough is extremely picturesque, the ground sloping gently from the foot of the high bluffs to the river, and rendered attractive by a number of fine residences. Among the early business firms were Walton & Company and O'Neil & Company, who were extensively engaged in coal mining and as general dealers. The former in the fall of 1871 built a large saw mill which was completely destroyed



SURVIVING VETERANS OF THE CIVIL WAR (1921) OF WEST ELIZABETH, ALLEGHENY COUNTY

by fire January 29, 1872, but was immediately rebuilt. The oak and pine lumber manufactured was used in repairing coal barges of which 198 besides six steamboats, were used by this company for freight purposes. The company also carried on a general store and built a hotel in the neighborhood of the railroad station.

The West Elizabeth of today is simply a residential borough with a few mercantile stores. The only up-to-date establishment is the West Elizabeth Lumber and Supply Company. There are some modern improvements, a few of the streets are paved and lighted by electricity, the educational advantages are confined to a graded school, of brick. The oldest religious organization is the First Presbyterian Church, which was organized November 9, 1841, with sixty members, thirty of whom were members of the West Elizabeth branch of the Mingo Creek Presbyterian Church. Previous to the erection of a church, communion was held in various places and the congregation worshiped in a school house, now the African Methodist Episcopal Church. On April 18, 1846, a lot was purchased on the corner of what is now Fourth and Mill streets, and a one-story brick building was erected at a cost of \$1,050. The first communion held in the new church was on November 9, 1846, on the fifth anniversary of the organization of the society. The church had stated supplies, and on the union of the Old and New Schools, it passed in 1869-70 into the Pittsburgh Presbytery. The first pastor, Rev. William Hanna, was installed in October, 1869, and a period of great prosperity succeeded. At the close of 1873 this pastoral relation was dissolved, and in June of the following year Rev. William McCreas was installed. For almost thirty years the congregation had been worshipping in their church, but it was outgrowing its home, and in 1876 the lots on which the present church and parsonage stands were bought for \$500, and the present edifice erected at the cost of \$8,000. Rev. William McCreas resigned in 1879, and in December the Rev. Joseph E. Andrews was called, his pastorate continuing until 1887, when he was succeeded by the Rev. Robert Boyd. The semi-centennial of the organization was celebrated November 8-9, 1891. The successor of Rev. Mr. Boyd in September, 1892, was the Rev. C. J. Forsythe; the latter soon sought other fields, and in 1895 the Rev. E. L. Allen was called. The later occupants of the pulpit have been Revs. George M. Ryall, T. W. Hine, H. D. Ewing, B. V. Riddle, H. C. Currie, Arthur E. French. The seventy-fifth anniversary of the organization was celebrated October 10-12, 1916. The Methodist Episcopal congregation was organized in 1858, and erected a frame church in 1867; the present brick edifice of the society was constructed in 1878. The African Methodist Episcopal society was organized in 1879.

In the Turtle Creek Valley, east of the city of Pittsburgh, are located the boroughs of East Pittsburgh, Turtle Creek and Wilmerding, which represent a population of over twenty thousand people, whose social and business associations are closely identified. The oldest of these boroughs is Turtle Creek, situated on the creek of the same name, with a population of nearly eight thousand. Its educational institutions are

three schools, a high school and two parochial schools. There are ten church denominations. The banking institutions are the First National Bank of Turtle Creek and the Turtle Creek Savings and Trust Company. There was an unsuccessful attempt several years ago to change the name of the borough to Westinghouse. When East Pittsburgh was incorporated as a borough, from portions of Braddock and Wilkins townships, in 1895, there were less than five hundred inhabitants, together with Turtle Creek. It became the location of the main plant of the Westinghouse Electric and Manufacturing Company, Westinghouse Machine Company and Pittsburgh Meter Company. The Greensburg pike, part of the Lincoln Highway, extends through the borough of Turtle Creek, and on the left proceeding west are the mammoth works of the Westinghouse Electric and Manufacturing Company, that extends through the borough into East Pittsburgh for a distance of over a mile, which was established in that location in 1895. The borough is divided into three wards. Water is furnished by the Monongahela and Allegheny rivers. The prominent banking institution is the East Pittsburgh Savings and Trust Company.

Less than a half century ago the site of the hustling borough of Wilmerding was a wilderness containing a single log cabin. The tract of land was purchased by the East Pittsburgh Improvement Company in 1890 for the erection of the works of the Westinghouse Air Brake Company for homes for its employees. The borough council held its first meeting in March, 1890, and the population has steadily increased as the works expanded, until it is estimated at the present time there are 8,000 inhabitants. There are nine churches which attend to the religious education of the people. The financial institutions are the East Pittsburgh National Bank and the Wilmerding National Bank.

Fifteen miles southeast of Pittsburgh is the borough of Pitcairn, incorporated June 9, 1891, having an area of 200 acres, with a population of about 6,000. Its chief industry is centered in the Pennsylvania railroad repair shops, transfer yards, and engine house, employing 3,700 men, with a monthly payroll of \$300,000. These shops were removed from East Liberty to Pitcairn in 1890. The religious element is represented by nine churches. The financial institution is the First National Bank. The electric lighting and power plant is owned and operated by the municipality. There are three modern school buildings with an enrollment of 1,100 pupils and 26 teachers.

Wall, formerly Wall Station, adjoins Pitcairn, and was incorporated as a borough in 1904 from a portion of the township of North Versailles. It contains part of the extensive freight yards of the Pennsylvania railroad, and is largely the homes of railroad men and their families.

Carnegie became a borough March 1, 1894, by the consolidation of the boroughs of Chartiers and Mansfield, and named in honor of the multi-millionaire steel king. The borough of Chartiers was originally the southeastern portion of Robinson township. The borough was laid out by John Doolittle, and incorporated September 6, 1872. It is situated in the heart of the Chartiers Valley, which derived its name from Peter

Chartier, a halfbreed Indian trader, who lived in Philadelphia as early as 1743 and was employed by the French as a spy. When his treason became known he was compelled to leave the city, and he came across the mountains, locating a trading post near the mouth of a creek which soon became known by his name.

The village established by Doolittle was of slow growth. In 1865, at the time of the completion of the Pan Handle railroad, there was no indication of any perceptible increase; there were only four houses between the creek and the railroad, and a few others in close vicinity. A rapid expansion took place in 1873, and at the taking of the next national census the population numbered 1852 souls. This was caused wholly by its individual activities and largely from the mineral resources of the surrounding country. The Mansfield Coal and Coke Company, D. Sheen & Sons, the Grant Mines, were prominent factors in this development, mining operations having been begun in 1863. The Pennsylvania Lead Company was organized in 1872, their extensive plant being situated just outside of the borough limits. The Chartiers Iron and Steel Company was incorporated in October, 1883. These industries became prominently identified with the developing of the borough.

The first burgess was William Hill, and the first ordinance passed by the council was for regulating sidewalks and street crossings. The borough was first known in the post office department as Mansfield Valley, which was changed to Putnam, January 8, 1885. The religious life of the community was dominated by the Roman Catholic denomination. St. Luke's Catholic Church dates from July 28, 1867, in a building known as the wool house, which was the first meeting house for all religious denominations in the borough; a new church edifice was erected in 1880. The German Catholic population laid the cornerstone of St. Joseph's Church, September 21, 1879, the formal dedication taking place January 1, 1880. The congregation of the German Lutheran Church erected a house of worship in 1872.

The borough of Mansfield, which became a part of the consolidation to form the borough of Carnegie, was incorporated from the northwestern part of Scott township, September 6, 1872. The site of the borough was originally embraced in seven hundred acres owned by Philip Ross, an early settler in the Chartiers Valley. The land was surveyed and platted into village lots in 1870 by Mansfield B. Brown. A post office was established in October, 1853, by the name of Rich Valley, which was changed as stated above in 1865 to Mansfield Valley. The opening of the coal mines in the vicinity stimulated its growth, but it was naturally a residential section. The religious life of the community dates back to the organization of the Mount Pisgah church in 1830, a church edifice being built by the Mansfield Presbyterian congregation in 1855. The United Presbyterians organized with twenty members a congregation in 1856; two years later they built a two-story brick edifice which was destroyed by fire in 1872, when a stone structure was built. The first Methodist sermon was preached by Rev. James L. Graham in 1855, the meeting being held in the wool house on Main street; the congregation in the summer of 1859 completed a house of worship. The Baptist denomina-

tion was organized in the borough in 1868, later there was a church built by the Methodist Protestant and two by the African Methodist Episcopal denominations.

These two boroughs were the integral part of the newly constituted borough of Carnegie, situated in the Chartiers Valley, the fourth amongst the municipalities of Allegheny county and entitled to all the privileges of a third class city charter. The borough about four miles square is in the center of this great natural gas and coal district, eight miles and a half from the Union Station at Pittsburgh though it is but a few miles distant from the city's boundary lines; the estimated population is 15,000; this however, is strictly within its borough limits, as it is the center of a trading population of 60,000. The railroad facilities are furnished by three trunk lines. Though bituminous coal was formerly the main prosperity of the borough and is today even an important factor, for the last score of years various industries have been attracted towards the borough which have added in the persistent forging ahead of the community. These include cold-rolled steel works, structural iron works, enamelling works, lead works, tin and glass factories, besides many others. The city is lighted by electricity, water supplied by the South Pittsburgh Water Company, there is a paid fire department and good police service. The school system is up to date,—three public grade schools, a high school, and several sectarian schools. There are four banking institutions,—the Carnegie Trust Company, First National Bank of Carnegie, Carnegie National Bank, and the People's Bank. The religious life of the city is represented by fifteen churches. Mr. Carnegie after the consolidation built a library with a music hall and gymnasium at a cost of \$140,000, and provided a liberal fund for its endowment. The residential boroughs of Heidelberg and Rosslyn Farms adjoin Carnegie, their population being in the neighborhood of two thousand inhabitants each.

Fifteen miles west of Pittsburgh, located in the oil field, is the borough of Oakdale, with population of about 1,500 and an area of 300 acres, incorporated in September, 1872. It is a railroad station on the Pan-handle division of the Pennsylvania railroad, its principal industries being coal mining and manufacturing. Here are located the Armstrong Cork Company, also an asbestos plant and the Aetna Chemical Company. Oakdale was originally a part of North and South Fayette townships, and was laid out as a village by C. H. Love. Its growth has resulted largely from the opening of coal mines in its vicinity. A prominent industry before the passage of the Eighteenth Amendment was the Oakdale Malt House, established in 1868 by McKee, Scott & Company, having a capacity of 30,000 bushels of barley a season. The borough owns its waterworks system and has a volunteer fire department; the main streets are paved and lighted with gas and electricity. The oldest religious organization is the First Presbyterian congregation, organized April 17, 1869, and which erected a frame church building in May, 1870. The other churches are the United Presbyterian and the African Methodist Episcopal. The educational system is equal to its sister boroughs, and is

supplemented by the Oakdale Classical and Normal Academy, founded in 1870 and incorporated in 1884, owned and controlled by the Oakdale Academy Association. Though it has had a checkered history, it has exerted a strong influence in the general intelligence and education of the community. The First National Bank of Oakdale is the prominent financial institution; the Oakdale Fire Insurance Company was incorporated April 13, 1874.

Springdale is situated at the great bend of the Allegheny river, sixteen miles northeast of Pittsburgh, on the Western Pennsylvania railroad. The site was patented by Edmund J. Hollingshead; in 1820, John Keen purchased from him a tract of 370 acres which is now embodied in the borough. It was named Springdale Farms by a daughter of the owner, and was incorporated as a borough from Springdale township in 1906 with its present title. The population is about 2,500 souls, who are engaged in mining and industrial pursuits, there being in the borough glass works, a glue factory, steel plant, besides other minor industries. The most important manufacturing interest is the Franklin Glue Works, which removed from Allegheny City in 1874 to a short distance above the village, and in February, 1884, erected another plant in the borough. The Methodist Episcopal congregation occupies a substantial brick building erected in 1881. The Springdale Presbyterian Church in the borough of Chiswick is a successor of the Deer Creek Church and was organized April 24, 1873, a church edifice being dedicated March 1, 1874. The Roman Catholics established an organization in the village in 1887. The United Presbyterian society was organized in November, 1873, and the St. Mark's Lutheran and Methodist Protestant congregations some time later. The financial institution is the Springdale National Bank.

The small borough of Chiswick joins Springdale on the west and is situated on the boundary line of Harmar and Springdale townships. It was incorporated as a borough in 1902. The principal industry is the Acme Tanning Company, established previous to 1880, when an extensive factory was built for the manufacture of leather by an improved process. The works were totally destroyed by fire, November 27, 1887, entailing a loss of \$90,000 but were immediately rebuilt.

Verona was incorporated as a borough May 10, 1871, it previously having formed a part of Plum and Penn townships. The area was extended to include Iona, Verona, Oakmont, Hudson and Edgewater stations, on the Allegheny Valley railroad, which was opened to Kittanning January 30, 1856. At an early day James Verner plotted the tract of land into village lots, and for a time it was known as Verner. At the time of the opening of the railroad the site of the borough on the south bank of the Allegheny river overlooked a valley unsurpassed for beauty; this gained an increase in population that soon made it a commercial and industrial center. The location of the railroad shops of the Allegheny Valley railroad was another factor in its development.

There was no established place of worship prior to 1857. A boat called the "Christian Friend" was used to convey those desiring to attend Sabbath services to the Associate Reformed church at Logans Ferry

and Deer Creek. The United Presbyterian Church was organized with eleven members in 1858, and became known as the Valley Church; a meeting house was built the following year. A Presbyterian congregation was organized in February, 1871, and a church edifice built in 1876. The Rev. John Kerr, the first pastor of the St. Joseph's Roman Catholic Church, laid the cornerstone for a chapel July 23, 1866, and a more pretentious brick edifice was erected in 1887; this was the nucleus of the present church organizations. The educational advantages are not excelled by any borough of its population in the country. Among those industries that have been factors in the progress of the borough besides the railroad shops already mentioned, the tool works of Metcalf, Paul & Company, the Valley Paper Company, and the Dexter Spring Company, are worthy of mention.

The borough of Oakmont, with a population of about 4,500, adjoining the borough of Verona, is ten miles northeast of Pittsburgh. It was organized from part of the borough of Verona, and incorporated in 1889. The inhabitants are largely of a residential character. It has good graded schools, a high school building that cost \$130,000; six churches, streets paved and lighted by electricity, water supplied by the Suburban Water Company. The First National Bank of Oakmont is the important financial institution.

Tarentum, on the north bank of the Allegheny river, twenty-two miles from Pittsburgh, ranks third in the county in order of organization, having been incorporated as a borough, March 7, 1842. The first land owner was Felix Negley, of German descent, who settled on the present site in the spring of 1796; the following year he built a saw mill and grist mill. In 1821 he erected a carding mill, and the business was conducted by him until his death, when he was succeeded by his son Felix, who carried on the business until 1852. The village was laid out by the elder Negley and Henry M. Brackenridge. Its growth dates from 1828, when water was first flooded into the canal; it was surveyed the following year, lots and streets being laid out. About this period James Miller built a steam saw mill at the mouth of Bull creek. The population grew slowly, and in 1860 amounted to only 711, but from 1880 to 1884 it increased from 1,245 to 6,200 souls, this due to the rapid expansion of the use of natural gas. This valuable discovery induced glass manufacturers to locate plants, the most important being the Pittsburgh Plate Glass Company, whose works cover an area of sixteen acres; the Challinor, Taylor & Company, Limited, and the Richard & Hartley Glass Works.

Methodism was planted in the vicinity of the borough long before its incorporation. Meetings were held as early as 1810, in private residences. A church was erected and dedicated October 27, 1844; later this gave place to a more modern building which was dedicated May 22, 1887. The Presbyterians organized in 1832, the first pastor being the Rev. A. Boyd; a fine church edifice was erected in 1881. The Reformed Presbyterians erected a church in 1885; the Lutheran congregation was organized August 1, 1886; and about the same time a Roman Catholic parish was established by Rev. A. H. Farini.

The first banking establishment was the Tarentum Banking Company. The present estimated population of the borough is 8,000. The school system is of the most modern type; in addition to grades, there are a high school and junior high school; manual training and domestic science courses are taught. The borough owns its municipal water and electric light plant, also has an organized police and fire protection. The financial institutions are the National Bank of Tarentum, People's National Bank, and Tarentum Savings Bank.

The borough of Brackenridge is thirty miles northeast of Pittsburgh, on the Conemaugh division of the Pennsylvania railroad, above Tarentum, on the north bank of the Allegheny river. The chief industries are mining and manufacturing,—extensive coal and coke companies and large steel plants, besides other industries, in which the greater portion of its 3,500 inhabitants are employed. The borough is divided into two wards. The Allegheny Steel Company, the Fidelity Glass Company and the Tarentum Glass Company are the principal industries. The religious interests consist of the Christian Volunteer Church, the Brackenridge Methodist Episcopal Church, and the Church of God. The educational facilities are represented by the First Ward School, the Second Ward School, and the Brackenridge Avenue Public School. The financial institution is the Merchants' and Mechanics' Bank.

Bridgeville, situated in the Chartiers Valley, twelve miles southwest of Pittsburgh, is a railroad station on the Pittsburgh, Cincinnati, Chicago & St. Louis and the Toledo Wabash Terminal railroads. Chartiers creek flows almost entirely around the borough, which is situated on rolling ground, furnishing fine building sites. The borough was incorporated from Upper St. Clair township in 1901, and is largely a residential section, with three macadam roads connecting with all parts of the county. Natural gas and oil are found within its limits. The principal streets are paved with brick, and are lighted by electricity. In the vicinity are large coal mines owned by the Pittsburgh Coal Company, the National Mining Company and the United States Steel Corporation. Among the important manufacturing interests is the American Vanadium Company; also there are glass works, rolling mills, a steel box company, and numerous brick kilns. The population of the borough is estimated at 2,500 persons. There are five churches, a school building with sixteen rooms, also a high school. The retail mercantile business is confined to thirty-five stores. The financial institutions are the First National Bank of Bridgeville and the Bridgeville Trust Company.



CHAPTER IV.

The Contiguous Boroughs.

The boundary lines of Pittsburgh as a municipality are most frequently street lines, the other side being the boundary line of some borough or township. There are twenty-five boroughs touching these boundaries of Pittsburgh or separated by river or creek. These boroughs are incorporated under the laws of Pennsylvania, and each has its separate municipal and school governments.

Opposite Pittsburgh on the Allegheny river is the borough of Aspinwall, with an original area of 153 acres, founded by the Aspinwall Land Company. It was incorporated as a borough from O'Hara township in 1893, and an additional part of that township was annexed in 1905. It is a station on the Conemaugh division of the Pennsylvania railroad, with an estimated population of 3,000 souls. The principal manufacturing interests are iron and steel. The First National Bank of Aspinwall is the financial institution. Aspinwall has graded and high schools, six churches, a good water system, a municipal electric lighting plant, paved streets, and is a delightful residential section.

Proceeding down the river, the next borough is Sharpsburg, five miles from the North Side. It was named for James Sharp, who in 1827 owned the land and laid out the village, which being located on the line of the canal, early became a central point. It was incorporated as a borough, March 26, 1842, with an area of 230 acres. The site is located on level ground stretching back from the Allegheny river to bold and rocky bluffs on the north, the valley being so narrow that it necessitated the building of stores and houses up and down the river, thus making the borough crescent shaped.

The Sharpsburg Presbyterian Church was organized in 1833. St. Joseph's Roman Catholic Church was dedicated April 29, 1849; St. Mary's (German) Roman Catholic Church was organized by the Redemptorist Fathers of St. Philomena parish, Pittsburgh, and a church was dedicated June 18, 1854; the edifice was completely destroyed by fire January 1, 1866, and a new church was dedicated June 10, 1867. The German Lutheran and First Baptist churches were built in 1860. Union Centenary Methodist Episcopal Church was organized in 1866. The Congregational and English Lutheran societies were organized in 1881. The Sharpsburg and Etna Savings Bank was established in 1868, and the Farmers' and Mechanics' Saving Bank in 1871. The borough largely depends on its manufacturing industries, which date back to the erection in 1846 of the Vesuvius Iron and Nail Works. The progress of the borough was rapid; in 1895 there were ten churches, one rolling mill, four glass works, an enameling works, a steel wire works, a clay pot works, a stove foundry and a lead works. The borough owns its water and electric plants. Sharpsburg of the present day is a thriving and progressive community, with an estimated population of nearly ten thousand.

The site of the borough of Etna was originally owned by General John Wilkins, who purchased a tract of land at the mouth of Pine creek. He built a large frame structure for a residence, and sold a portion of the tract to David Anderson, who laid it out into streets and village lots, giving it the name of Stewartsville. The original tract included the borough of Sharpsburg, Pine Creek being the dividing line between the two boroughs, which are connected by a bridge. The site, formerly used for the manufacture of scythes and sickles, was purchased in 1828 by Spang and Chalfant Company. The property was adapted to a primitive establishment for the rolling of bar iron from blooms. The open hearth steel works were placed in operation in August, 1882. The Isabella Furnaces were erected in 1872; these, with several other extensive iron mills, soon doubled the population of the borough, which in 1876 was about 3,000. The United Presbyterian congregation was organized February 13, 1868. The next denomination to establish was the German Evangelical. The First National Bank of Etna is located in the borough. The accessibility of the borough to Pittsburgh has caused it at the present time to become a favorable residential section.

The western boundary line of the borough of Millvale at the Allegheny river, just above the bridge of the Baltimore & Ohio railroad at Herr's Island, is the eastern boundary of the North Side. It was originally the old Allegheny Poor Farm, consisting of 164 acres, and was sold by John Semple, September 23, 1844, to the poor directors of Allegheny City who converted it into a farm for the care of the poor of the city. The increasing numbers of these persons caused the directors to petition the legislature for a removal of the institution to a greater distance from the city. This was granted, and the Poor Farm was divided into lots and sold for nearly \$300,000, the original cost being \$12,000. The location was formerly known as Bennett's Station, and was situated at the junction of the Lawrenceville and Evergreen and the West Pennsylvania railroads.

The organization of the borough took place February 13, 1868, when a portion of Shaler township and the balance of the borough of Duquesne, now absorbed by Allegheny City, was by an act of consolidation given municipal powers. The inhabitants were engaged partly in truck farming, which supplied Pittsburgh with green market products; also their activities are confined to industrial plants. The Millvale Rolling Mills, erected in 1863, suffered an entire loss by fire December 11, 1881; they were rebuilt in 1882 and enlarged in 1887; this industry gives employment to a large portion of the inhabitants, which is estimated in the neighborhood of ten thousand persons. The two churches within the borough in 1876 were Catholic and Presbyterian. The latter was organized in August, 1869. St. Anne's Roman Catholic Church originated in the labors of Father Gibbs, the church being dedicated May 21, 1875. St. Aubray's (German) Roman Catholic Church was dedicated November 6, 1887. These have been largely augmented and almost every religious society is represented. The financial institution is the Bank of Millvale.

Just north of Troy Hill, a residential section of the North Side, is

the borough of Spring Garden, mainly in the valley of Spring Garden Run. It was incorporated as a borough May 19, 1882, with area of 266 acres, from Reserve township, and is a residential district. A portion of the borough was annexed to Allegheny City in 1900. The township lines of Reserve and Ross carry the city's line to the borough of West View, incorporated from a part of Ross township in 1905. This is purely a residential section for those engaged in business in Pittsburgh. The borough offers all the modern improvements for the pursuit of health and happiness. Its religious and educational facilities are not excelled by any borough in the country.

Bellevue was incorporated September 7, 1867, from a portion of Ross township, and is contiguous to the city, being separated from the North Side by Jacks Run, and is about four miles from the business section of Pittsburgh. It is a suburban residential borough, with no manufactures and a limited local trade. The original settlers were Samuel Dilworth; Andrew Jack, who was proprietor of a ferry, hotel and mill; Zachariah Blackburn, and Erasmus Cooper. At the time of its incorporation there were four churches,—Methodist Episcopal, Presbyterian, United Presbyterian and Methodist Protestant. The Methodist Episcopal denomination holds a deed for its site dated June 10, 1811, and was one of the oldest in the country outside of Pittsburgh; the first church was built of logs, which afterwards gave way to a modern edifice. The Methodist Protestant denomination organized and built a church in 1866, enlarged and rededicated it December 17, 1886. The Presbyterians organized a congregation January 25, 1871, and built a house of worship the following year. The United Presbyterian denomination was organized May 21, 1872. There are at present ten churches of different denominations within the limits of the borough.

Bellevue is divided into three wards, each having a model school-house; there is also a high school building, constructed at the cost of \$175,000. The streets are paved, sewerred and lighted by electricity; the borough has a complete water system, a park, a well equipped volunteer fire department. The estimated population is in the neighborhood of 8,000. A post office was established April 10, 1887, by the name of Bellevue, it having been previously known as Robella. There is free delivery postal service; natural gas is used as fuel; a weekly paper, "City and Suburban Life," is issued; and the financial affairs of the borough are represented by the Citizens' National Bank and the Bellevue Realty Savings and Trust Company.

Adjoining Bellevue on the west, though not continuous to the city's line, is Avalon, formerly the borough of West Bellevue, taken from Kilbuck township and incorporated December 9, 1874. It was formerly known as a railroad station by the name of Birmingham, and as a post office as Myler. It is a residential community of citizens who are generally engaged in a clerical capacity in Pittsburgh. The name of the borough was in 1894 changed to Avalon. The borough, with about 5,000 population, is divided into three wards, equipped with school houses, with modern educational facilities; sanitary improvements; police and fire

protection. The religious life of the borough is represented by Bellevue Methodist Church and Trinity Lutheran Church.

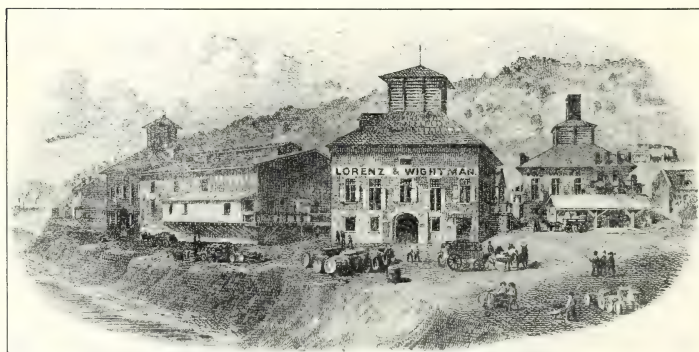
Immediately below Avalon are the boroughs of Ben Avon and Ben Avon Heights. The former was organized from a part of Kilbuck township in January, 1891. The borough is situated on a beautiful plateau of 2,350 acres at an elevation of 135 feet, on the Ohio river. The streets are graded with brick, with stone sidewalks. There is one of the most complete school buildings in the county, a volunteer fire department, and streets illuminated with electricity. The principal religious society is Ben Avon Presbyterian Church.

Still below Ben Avon on the Ohio river is the borough of Emsworth, organized from a part of Kilbuck township in 1897. The religious life of the community, that numbers in the neighborhood of two thousand souls, is represented by the Emsworth Lutheran, the Emsworth Methodist, the Emsworth Presbyterian and the Emsworth United Presbyterian societies. The Roman Catholic population attends Sacred Heart Roman Catholic Church, which has under its direction the worthy charity, the Holy Family Orphan Asylum. Emsworth offers the benefits of the public school system, ample fire and police protection, and is in every way a model residential community.

Following the course of the Ohio river from Emsworth, occupying a narrow valley of the Kilbuck Run, is the small borough of Glenfield, formerly known as Camden. It was taken from the southeastern portion of Aleppo township, and incorporated as a borough, December 4, 1875. The population in 1880 had reached over 500, which has increased slowly, it being at the present time about 1,000. Thorn Chapel of the Methodist Episcopal church was built in 1874, and a Presbyterian society was organized in 1876.

Haysville, in the immediate vicinity of Glenfield, was organized as a borough in 1902 from a portion of Aleppo township. It is situated on the banks of the Ohio river. Its borough school furnishes public education, while the Haysville Presbyterian Church ministers to the religious life of the community. The borough, though small in population, is well supplied with public improvements, among which is the Haysville Water Company.

Pursuing a westward course, the Valley of the Sewickley is reached, where prior to the defeat of Braddock roamed a tribe of Red Men who originally came from South Carolina and were identified either with the Shawnees or Creek Nations. In their native dialect they named two creeks forty miles apart,—one east of Pittsburgh, the other west; the latter was given the name of Sawakola, or Sawokli, *sawi* meaning raccoon and *ukli* town. The name is mentioned as early as 1749 in a deed from the Six Nations to George Croghan, in which it is designated as "Sewickly Old Town." The Indian trader, John Campbell, in a letter dated in December, 1767, writes of his being upset in his canoe with four men, and which was afterwards seen passing Sewickley Bottom about twelve to fourteen miles from where Pittsburgh now stands on the Ohio river. The Pittsburgh and Beaver road was in existence as early as



LOG HOUSE, SEWICKLEY; O'HARA HOMESTEAD; SOUTH END OF POINT
BEFORE THE ERECTION OF THE BRIDGE

1778, and followed the old Indian trail leading from the Forks of the Ohio to the northwest country.

Among suburban residential locations, where the beauties of a natural landscape have been supplemented by the opulence of wealth, is Sewickley. The borough, situated on a plateau walled in by majestic wooded hills, is a spot of rare natural beauty and environments, embraces the town of Sewickley and the boroughs of Edgeworth, Glen Osborne or Osborne, and Leetsdale in the Sewickley Valley. The introduction of manufactures and hotels has always been opposed, as the main idea from the first was to make it an exclusive suburban residential community.

The principal original land owner was Thomas Hoey, his farm being located on both sides of the Beaver road. Robert and James Green opened a general store on this road about 1832, and fourteen years later there were thirty houses within a circuit of a mile, with Methodist and Presbyterian churches in close vicinity. The village in its early days enjoyed many names, it having been known as Oppatongo, Fifetown, Dogtown, Contention and Devil's Race Track, but in 1840 it was decided to call it Sewickleyville, the term "ville" being used to distinguish it from that closely settled portion of the valley known as the Bottom. The village having been surveyed and platted into streets and lots by the heirs of Thomas Hoey, it was incorporated under its present name, July 6, 1853, though the longer name Sewickleyville was used for a post office until 1871. The first borough election was held August 30, 1853, and Rev. Robert Hopkins became the first burgess. A notable event which was celebrated July 4, 1851, was the passing through the village of the first railroad train. There were at this time only a group of houses along the Beaver road, mostly used for hotels, the inhabitants numbered about five hundred. From this period the population commenced to increase, and public improvements naturally followed.

The Sewickley Gas Company was incorporated in 1871; the water works were completed in October, 1873; and the Ohio Valley Gas Company obtained articles of incorporation December 15, 1885, to supply natural gas for fuel. Educational interests were placed on the highest standard with a full complement of graded and high schools. Two private schools,—the Edgeworth Seminary for girls, which was destroyed by fire in 1865, and the Sewickley Academy for boys, which was abandoned in 1890,—gained a wide national reputation. The streets are paved with fire brick, illuminated with electric lights; fire and police departments safeguard the person and interests of the inhabitants. Accidents and sickness receive valuable medical aid at the Sewickley Valley Hospital, a modern and up-to-date institution. The public library was established in February, 1873.

The first religious services by regular appointment in the Sewickley Valley were conducted by Rev. Francis Reno, an Episcopal clergyman. His salary was paid by subscriptions, and for the year beginning May 1, 1798, the aggregated amount donated was \$29.03 in currency, 36½ bushels of corn, one bushel of wheat, and an equal quantity of rye. The place of worship was a barn, and though Mr. Reno continued to preach

until 1809, there was no organization of a Protestant Episcopal church. The Sewickley Presbyterian Church then took up work, and August 22, 1810, Rev. Andrew McDonald was installed as pastor at White Oaks Flats, in Beaver county, and served in connection with this charge the people of Sewickley Valley. The congregation worshiped in barns and private houses; if the weather permitted, in the open woods. A church of logs roughly hewn, covered with clapboards, was built in 1818, and served as a place of worship until the reorganization of the congregation February 17, 1838, when efforts were made to build a more modern structure, resulting in 1841 in the completion of a brick church of gothic style of architecture. This was supplanted by a stone structure dedicated December 15, 1861.

The first Methodist society was formed in Sewickley Valley in 1809 by Rev. Thomas McClelland, a local preacher. On one of the hills of the valley a frame building was built for religious purposes; a society was formed in 1838, in what is now the borough of Sewickley, a frame church was built, and later on the same site a brick edifice was dedicated June 20, 1884. The United Presbyterian congregation was organized May 3, 1864. The cornerstone of St. Stephen's Protestant Episcopal Church was laid October 10, 1863, and the completed structure was consecrated May 20, 1864. Through the exertions of the Rev. James S. Reed, of Beaver, the foundation of the St. James' Roman Catholic Church was laid a log church being built by him, which later gave way to a brick structure. There are at present seven churches—First Baptist, First Presbyterian, First United Presbyterian, Methodist Episcopal, St. Paul's Evangelical Lutheran, St. Matthew's African Methodist Episcopal Zion, and St. Stephen's Protestant Episcopal. The financial institutions are the First National Bank of Sewickley and Sewickley Valley Trust Company.

Edgeworth was incorporated from a portion of Leets township as a borough in 1904. Its name is derived from a female academy established there in 1825 by Miss Mary Olver, an accomplished and stately Englishwoman who named her institution in honor of Maria Edgeworth, the eminent English novelist. The Academy for thirty years was one of the noted educational institutions of the country; its two wooden wings were destroyed by fire February 11, 1865, and its career as an educational school was ended; the central part being of stone, was preserved and was for many years used as a residence. Edgeworth is beautifully situated on the Ohio river, adjoining Sewickley, and is a community of residential homes, with fire and police protection, public schools and water works; its important manufacturing industry is the Edgeworth Machine Company.

Adjoining Sewickley at its east end is the borough of Osborne, formerly called Glen Osborne. It was incorporated March 10, 1883, from the western part of the township of Aleppo. After a protracted legal contest in course of which the authority of the Supreme Court was invoked, it was granted an act of incorporation. It is one of the smallest in population of the boroughs of the county, and is purely a residential community.

Leetsdale is at the extreme end of Allegheny county on the Ohio river. It was incorporated as a borough in 1904 from a part of Leets township. The population, estimated at about 2,000, is largely employed in the manufacturing establishments, prominent among them the Riter-Conley Manufacturing Company, organized in April, 1873, as Riter & Conley, for the building of every variety of manufacturing plants, even setting them in operation for their purchasers. They design the most elaborate series of mills or factories, and conceive and construct machinery to turn out the products. Employment is given to thousands of men, and annually 120,000 tons of manufactured steel are produced. The partnership was incorporated September 28, 1898, with a capital stock of \$1,000,000 under the laws of the State of New Jersey as the Riter-Conley Manufacturing Company. The specialty of the company is the constructing of blast furnaces, gas holders, riveted transmission towers, and structural work of all kinds. The president is C. D. Marshall, and since April, 1916, a majority of the stock has been owned by The McClintic-Marshall Construction Company. The public schools are in every way suitable for modern educational methods. Among houses of worship are the First United Presbyterian, Leetsdale Baptist and Saint Matthew's (German) Lutheran churches.

On the opposite side of the Ohio river from the Sewickley Valley is the borough of Coraopolis. The first owner of the site, Henry Montour, secured a warranty deed April 3, 1769, and though his occupancy was of short duration, he was the first settler in Moon township from which Coraopolis was incorporated June 7, 1886. Montour was an Indian three-quarter blood, his mother was Catharine Montour, a daughter of Count Frontenac, by a Huron woman, who was adopted at the age of ten years by the Iroquois Indians and married a chief of that nation. Among her children were two sons, Andrew and Henry, both of whom served Sir William Johnson as interpreters. Montour county is named in honor of their mother. The second settler in Moon township was Robert Vance, who located in the vicinity of Montour's warrant about the beginning of the Revolutionary War. The borough of Coraopolis during its village life was known as Middletown; on the establishment of a post office in August, 1861, it was called Vanceport. The borough after acquiring railroad facilities rapidly improved; its natural location combining healthfulness, accessibility and congenial surroundings soon made permanent accessions to its population, which at the present time is estimated at 6,000 inhabitants. The prominent church edifices are the Presbyterian, United Presbyterian and Methodist Episcopal, which were located in the borough in the eighties of the last century.

Crossing the Ohio river at or near Bellevue, on the west bank of Chartiers creek, which divides it from Pittsburgh, is the large borough of McKees Rocks. It derives its name from Alexander McKee, to whom thirteen hundred acres in its vicinity were given in 1764. The borough joins the North Side, about five miles from the business district of Pittsburgh. It was known in 1889 as a railroad station under the name of Chartiers, and its growth and importance as a manufacturing center was

the result of the opening of the Pittsburgh & Lake Erie railroad. A post office was established in 1870, discontinued in August, 1881, and reestablished the following year. The population in 1880 was 867, which has increased to nearly 20,000. The most important manufacturing interest is the Pittsburgh Steel Works, whose plant covers seven acres of ground; it was established in 1882, its product being fine crucible steel. Another important industry was the Iron City Bridge Company, which was established in Cincinnati, Ohio, in 1854, two years later removed to Pittsburgh, and in 1881 to McKees Rocks. This establishment was active in building bridges in all parts of the United States, Mexico, Cuba and South America. The Vulcan Forge and Iron Works came to McKees Rocks in 1882. Their specialty was the manufacture of car wheels, axles and bridge iron. The repair and machine shops and freight yards of the Pittsburgh & Lake Erie railroad were located in McKees Rocks in 1889. Besides these industries, the manufacture of enameled ware, lumber, wall plaster, locomotive and car springs, nuts and bolts, malleable castings, chain and forgings, freight and passenger cars, tinware, concrete, cigars, etc., play an important part in the commercial and mercantile life of the borough. McKees Rocks is universally known for its iron and steel industries, but both coal and lumber are produced in large quantities; natural gas is used as fuel. The First National Bank of McKees Rocks, the McKees Rocks Trust Company, and the Chartiers Trust Company, are the financial institutions. The Ohio Valley General Hospital, a notable institution, is located within its boundaries.

The religious life of McKees Rocks at the present day is attended to by eleven church denominations. The largest and the most important of these are the St. Mary's German Catholic Church, organized by the efforts of the Passionist Fathers of Pittsburgh in 1855, when the cornerstone of the first church was laid. The first Presbyterian service was held in 1875; a congregation with twenty-four members was organized in 1883, and the following year a church building was dedicated. St. John's German Lutheran Church was organized in 1885, incorporated the following year, the cornerstone of a church edifice being laid September 25, 1887. Mount Calvary Lutheran Church is one of the oldest religious organizations, dating back to 1853. The church is beautifully located on a hill overlooking the valley of Chartiers Creek, about a mile from its mouth, and has in connection a fine cemetery of several acres of ground.

The original Chartiers township has nearly all been annexed to Pittsburgh or made into boroughs. On account of the rugged topography of this region the city's line makes some queer twists. Lying between Sheraden and Chartiers Creek is what remains of Chartiers township. The borough of Sheraden was originally from a part of that township and was plotted by N. P. Sawyer in 1872, and the name of Aschenaz given to the village. A Methodist and a Presbyterian church were built in 1884, and a post office established February 10, 1886. The site was exploited in 1889 by the Sheraden Land and Improvement Company, and since that time was known as Sheraden, and in 1917 was annexed to the city of Pittsburgh.

South and west of Sharadan and extending to the creek is the borough of Ingram. The first recorded settler was William McMacken, in 1804; half a mile northwest of his settlement Andrew Robinson took up land in what was known as the Mount Pleasant tract of General Hand's patent. Thomas Ingram, from County Tyrone, Ireland, in 1823 purchased the site, which in 1889 comprised about seventeen houses. The Chartiers Union Chapel was built in 1885, and the United Presbyterian congregation was organized in 1889. The borough was incorporated from a portion of Chartiers township in 1902. The population is in the neighborhood of 3,000.

Opposite McKees Rocks on the east side of Chartiers Creek and the western limit of the city's line on the south side of the Ohio river, was located the former borough of Esplen, which was annexed to the city in 1906.

Towards the east, extending to the Noblestown road, six miles from Pittsburgh, with which its activities are intimately associated, is the borough of Crafton, with a population estimated at 6,000. The name of the borough, which was incorporated January 8, 1894, is derived from Charles C. Craft. The site was originally known by the Indian name Killiman. After experiencing many changes of ownership the site in 1871 came into possession of James S. Craft, and upon his death passed to his son, Charles C. Craft, and the farm of two hundred acres was surveyed into house lots in 1873, but owing to the money panic of that year operations were suspended and but one house was built. In the next decade about a score of residences were completed, but since that period the borough has become a compact settled district. The borough was known as early as 1857 by the name of Brodhead, a post office being established at that date. The religious activities in the community was inaugurated July 25, 1839, when St. Philip's Roman Catholic Church was dedicated, the Catholic population having previous to this time been obliged to attend services at the Cathedral in Pittsburgh. The Church of the Nativity of the Protestant Episcopal denomination was organized in September, 1872; the cornerstone of the church was laid May 8, 1873, the first religious service held October 19, 1873, the parish incorporated March 15, 1873. The Crafton Methodist Episcopal congregation was organized October 12, 1883; a church edifice was dedicated in October, 1884. A society of Presbyterians was organized in 1889. There are two banks—the First National Bank of Crafton and the Crafton Trust Company.

Thornburg, one of the smallest boroughs in Allegheny county, was incorporated in 1909 from a portion of Robinson township, with a population of only 230 souls. It adjoins the borough of Crafton in the Chartiers Valley, and is located on the west bank of the creek of that name. Across the Noblestown road is a rural section known as Greentree, incorporated July 14, 1885, as a borough from the western part of Union township. The name was first applied to a hotel on the Pittsburgh and Washington turnpike. It was made a post office May 10, 1844, and is a community of suburban homes and small farms and is traversed by

the Wabash railroad. The population does not exceed twelve hundred. Its religious societies are the Wesley Methodist Episcopal, Mount Pisgah Presbyterian, and German Lutheran. The northern line of Greentree is the city's line of the Twentieth Ward, but between that borough and the city lines were the boroughs of Beechview and Brookline, annexed to the city in 1901, portions of the Nineteenth Ward are bounded by Union township intervening. Then comes the borough of Dormont, incorporated from a portion of Scott township in 1909, and beyond that to the south the township of Mt. Lebanon.

To the east of the boundary line of the Nineteenth Ward is the West Liberty district, formerly a part of the township of Lower St. Clair, and incorporated as a borough, March 7, 1876, and the village proper was formerly a small hamlet on the National turnpike. It was annexed to the city in 1908. Here also lies the Upper Saw Mill run valley, and the hill on the south side of the run in the township of Baldwin. Across Saw Mill run and extending up the hillside on both sides of Brownsville road is the borough of Carrick. It is five miles south of Pittsburgh, a business center, its industries are principally confined to mining. The streets are fairly well paved and lighted by gas and electricity. Water is furnished by the South Pittsburgh Water Company. The borough was incorporated from a part of Baldwin township in 1904, and is almost surrounded by the remaining portion of that township and the recently incorporated borough of Brentwood. The village has had an existence since it was created as a post office, December 23, 1853, and on account of the location of the Engleheart glass works in its vicinity was formerly referred to as Engleheartville. The population is diversified both in occupation and nativity, and is estimated at over 10,000. Brentwood was incorporated as a borough in 1917, and simply is a continuation of Carrick on both sides of the Brownsville road, and is largely a resident district. Adjoining the north line of Carrick is the borough of St. Clair, which was incorporated from the township of Lower St. Clair in 1904, and has a residential population of nearly six thousand. Lower St. Clair, which was one of the original townships of Allegheny county, extended from the river to the line of Washington county, and was one of the largest towns in area in the county, containing ninety-six square miles with an acreage of 39,040, and in 1910 was the most populous. It was first divided into Upper and Lower St. Clair townships, and in recent years a large number of boroughs were formed within its limits. At the present time it consists of a small triangular plot in the Lower Saw Mill run valley on the hillside back of Mount Washington, inhabited by about fifty families of German descent.

On the Brownsville road coming towards the South Side are the boroughs of Knoxville and Mount Oliver, the road being the dividing line between the two. The site of Knoxville was originally known as Jeremiah Knox's fruit farm of one hundred and twenty-five acres, and was platted into village streets and lots in 1872 by the Knoxville Land Improvement Company, who operated brickyards, stone quarries, coal mines and lumber yards. The village was incorporated as a borough,

September 7, 1877, and its accessibility to the city by trolley lines soon made it one of the most prosperous communities on the South Side; the population in 1880, only 393, has increased to between 6,000 and 7,000. The St. Clair Savings and Trust Company is the financial institution.

Mount Oliver, its sister borough, was taken from the northern and western portions of Lower St. Clair township. It was soon favored as a residential section by the Germans on account of its accessibility to the city and the dedication of the German Roman Catholic Church, November 20, 1870, the cornerstone having been laid October 4, 1868. The borough is situated on a commanding height, and was during the Civil War fortified to protect Pittsburgh. The present population is in the neighborhood of 5,000.

Back of Mount Oliver and stretching over the hills to the Monongahela river is a portion of what was formerly a part of St. Clair borough, afterwards incorporated as a borough under the name of Ormsby, named from a family that once owned all that section, and was annexed to the city in 1874. The name is however retained as a station on the Monongahela division of the Pennsylvania road. It was the original site of the Jones & Laughlin Steel Company. There are a few residences in the district, mainly occupied by foreign mill workers and their families. In early days the district was called Brownstown.

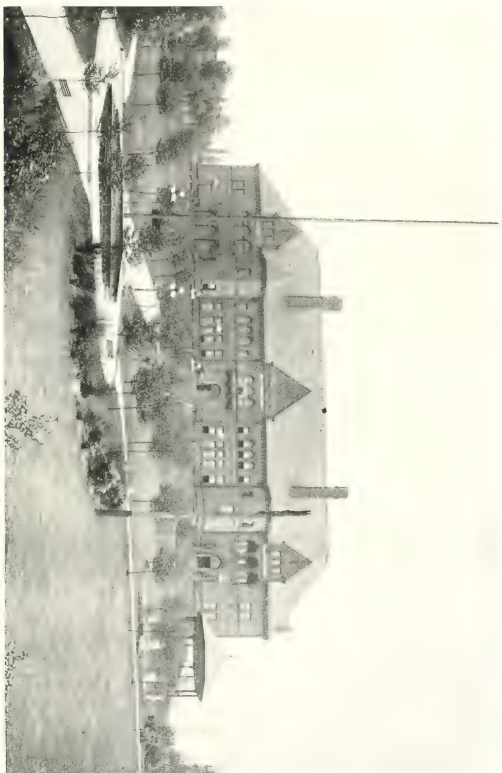
In the South Hills and overlooking the South Side and stretching back through the hills on a line with the boroughs of Knoxville and Mount Oliver, was the borough of Allentown, named from a former owner of the site, Joseph Allen. It was incorporated as a borough in 1869, and included Beltzhoover, and with a portion of that borough was annexed to Pittsburgh in 1874. Beltzhoovers were an extensive family living in Lower St. Clair township, and upon the annexation of Allentown, a new borough was incorporated June 9, 1875, and named in honor of the family. It was annexed to the city in 1898. A small borough south of Beltzhoover, a residential section named Montooth, was annexed to the city in 1907. The newly incorporated boroughs of Castle Shannon and Overbrook are located on the South Hills. The former is located in a fairly good agricultural district, with mining as its principal industry. The village is well known as the terminal of the Pittsburgh & Castle Shannon railway, a narrow gauge steam road which has been widened and electrified and is now a part of the Pittsburgh Railways Company system. There are twelve local retail mercantile houses, and the First National Bank of Castle Shannon. Educational facilities are furnished by a public and a parochial school; the religious life is confined to four churches—Presbyterian, Lutheran, Methodist and Catholic. The streets are lighted by gas and electricity, and the supply of water is obtained from wells.

To the east of Pittsburgh and touching the Monongahela river is the borough of Swissvale, eight miles from the city. Its most valuable industries are the Union Switch and Signal Works and the Pittsburgh Lamp, Brass and Glass Company. The residents are largely engaged in industrial pursuits. The educational system has four graded schools, a new high school in process of erection, and a parochial school. There

are seven churches, and the First National Bank of Swissdale is the important financial institution. Extending north of Swissdale is the borough of Wilkinsburg. The former village was known by the names of McNairsville and Rippeysville. The early churches were the Reformed Presbyterian, who built a brick church in 1845; the St. James' Roman Catholic Church, a frame building, dedicated November 19, 1869, and for a number of years in charge of the Rev. A. A. Lambing, the well known historian. The United Presbyterians built a brick church in 1883, having effected an organization November 1, 1882. The Wilkinsburg Presbyterian denomination was organized in 1886, and erected a brick edifice in 1869 which was rebuilt in 1887. There are at present twenty-five churches in the borough, many of them fine stone edifices. The early proprietor of the site of Wilkinsburg was James Kelly, of a conservative disposition, that retarded the growth of the village, though of a generous turn of mind. He donated five acres to the Women's Charitable Association of Pittsburgh, who located in the borough two charitable institutions—a Home for Aged Protestant Women organized June 11, 1869, and a similar institution for men, opened in 1872 and called the Sheltering Arms. Through a liberal donation of land from Mr. Kelly which has been estimated to be valued at \$60,000, the Western Pennsylvania Institution for the Instruction of the Deaf and Dumb was first located at Wilkinsburg. Owing to legal troubles with a railroad corporation, the site had to be disposed of, and the present location of the institution was purchased.

The borough was incorporated December 2, 1887, and is almost wholly a residential section just outside of the city limits, seven miles from the heart of Pittsburgh, with considerable local trade. The depot of the Pennsylvania railroad is one of the handsomest on the line of that road. The population of the borough is about 25,000. There are five graded schools and a high school. The financial institutions are the First National Bank of Wilkinsburg, the Central National Bank, the Wilkinsburg Bank, and the Wilkinsburg Real Estate and Trust Company. The borough is abundantly supplied with fire and police protection, with sanitary water works, paved streets, lighted by electricity, and offers to its residential inhabitants all the comforts and pleasures of a metropolitan district. East of Wilkinsburg and north of Swissdale is the borough of Edgewood, incorporated from portions of Sterrett and Wilkins townships in 1888, and is a residential district. North of Wilkinsburg is Penn township, extending to the Allegheny river, which with its city appearance is practically an extension of Pittsburgh to the east, and part of the metropolitan district called Greater Pittsburgh. Chalfant is a recently incorporated borough, northeast of Wilkinsburg, mainly a residential section with a population of about 2,000.

Homestead—Geographically the Homestead community lies on the south bank of the Monongahela River, south of the Squirrel Hill district in the East End of Pittsburgh. The original surveys in this district were "tomahawk" or "squatters" claims and were later officially surveyed and sold or claimed by other settlers.



CARNEGIE LIBRARY, HOMESTEAD

Two claims are largely included in the Homestead boundaries: the tract settled by Thomas Smith in 1769, was purchased by John McClure in 1786 who obtained the patent titled "Amity" from the government. The adjoining tract on the west was settled by Sebastian Frederick in 1783. This was patented to Alexander Lowrey in 1789 and was named "Leydon". Other patents for tracts in this community were named "Sutherland", "Spice Wood Hill", "Small's Mill", "Farmer's Delight", and "Good Pay."

Mifflin township, in which this district is located (named after Thomas Mifflin, the first governor 1790-99), was rich in coal lands. There is very little coal remaining at present. The schools, roads and other improvements are all of a type and in a condition that is a credit to the township. The township building is an up-to-date and commodious structure including an auditorium, assembly hall, fire house, and offices, and is located in Homestead Park.

Homestead attracts attention because of its being the seat of the Homestead Steel Works, the most important single plant in the United States Steel Corporation, and because of the great industrial contest in 1892. It is one of the links in the chain of iron and steel industries that extend from Youngstown, Ohio, to Clairton, Pennsylvania. While Homestead is a borough, it is usually thought of as a community or district including several other boroughs and villages. Homestead, with a population of 20,453 (census 1920) was incorporated September 18, 1880; Munhall, 6,418, 1900; West Homestead, 3,435, 1900; Whittaker, 1,881, 1906; Homeville, 1,460; Franklin, 875; Homestead Park, 875; Bellwood, 210; Lincoln Place, 985; and Hays, 2,231, 1902; with a total population of 38,823. Five and two-tenths per cent of this population are negroes; the foreign comprise 28.6 per cent and the foreign-native are 30 per cent, making a total of 58.6 per cent commonly classed as foreigners. Thirty-six per cent are native born. Fifty-three per cent of the men employed in the mills are Slovaks, 17 per cent are other foreign born, while 30 per cent are native born. The races represented are Magyar, Russian, Bohemian, Greek, Italian, Lithuanian, Roumanian, Croatian, Polish, Mexican and Slovak.

The first settler or squatter in this community was Sebastian Frederick. A tract of several hundred acres embracing the town was purchased from the government by John McClure, from whom it was inherited by Abdiel, his son. A part of this tract was purchased by the Homestead Bank and Insurance Company, under whose auspices the town plot was surveyed in 1871. The Pittsburgh, Virginia & Charleston railway was opened in the following year, and several hundred houses were built prior to the panic of 1873. The population in 1880 was about 500.

The first manufacturing enterprise was the Homestead Glass Works, Bryce, Higbee & Co., 1879. The first local newspaper was the "Herald," first published in 1880, which was followed by the "Mirror" in 1881, the "Local News" in 1881, the "People's Weekly," and the "Valley Echo," each in 1885; which were followed by the "Homestead News" in 1897;

the "News Messenger" in 1898, and the "Daily Messenger" in 1908. For a few years the "Homestead Press" and the "Homestead Republican" flourished as opposition dailies.

The Chamber of Commerce was chartered September 24, 1919, for the promotion of the commercial, industrial, financial, and civic welfare of the Homestead district. It has a membership of 600, to which women are eligible; a managing secretary, and permanent headquarters. This organization was preceded by the Homestead Board of Trade, Homestead Trading Association, Business Men's Association, and a Chamber of Commerce.

The schools are the most hopeful altruistic agency in this community. It is here that the children receive systematic training in the mental, moral and physical requirements of the quality of Americanism that is required by the State at this time. Homestead employs one hundred twenty-one teachers in the public schools. The high school building is a model in its economical arrangement and construction. The Industrial Vocational School is operated in a building given and equipped by Charles M. Schwab. This enterprise has developed a degree of efficiency that makes it stand out as an example in vocational training. In Munhall, where 40 teachers are employed, the high school ranks in the first class. The buildings are grouped in a single block. The junior high school, like a similar school in Homestead, has passed the experimental stage and has become an integral part of the regular school work.

At Whitaker, Homeville, Franklin, Bellwood, Homestead Park, Lincoln Place, and Hays, where adequate schools are conducted, there is a total of 58 teachers. The parochial schools of this district with three exceptions are located in Homestead and have 25 more teachers, making a total of 242 teachers in the community. St. Mary's, the largest of these parochial schools, has an enrollment of 1,000 pupils.

The key to the thrift of a city is best shown in the business of its banks. The First National, organized in 1887, reports deposits amounting to \$2,000,000; the Monongahela Trust Company (1898), \$8,000,000, including \$1,500,000 to saving accounts; Homestead Savings and Trust Company (1903), \$1,793,000, including \$892,000 in the savings department; Hays National (1901), \$800,000, including savings accounts amounting to \$300,000, a total of \$12,593,000; a total equal to the pay roll of the Homestead Steel Works for a single year. Other realty saving agencies should have the effect of bringing the total savings and deposits up to approximately \$13,000,000.

The Carnegie Library of Homestead was the gift of Andrew Carnegie. He not only gave the lot at a cost of \$50,000 and building at a cost of \$300,000, but also endowed it with \$320,000. Its value at the present time is \$1,000,000. It is more than a library. It is a community building having in it a library, athletic club, music hall, and welfare rooms. Few buildings of this type render greater service, showing the highest type of appreciation on the part of the public. In his dedicatory address November 5, 1898, Mr. Carnegie implied the policy of the institution:

The Library, filled with the most precious legacy the past can bequeath to the present—a collection of good books. To educate the people of this community by supplying readable literature to the masses of the people, making provision for the student, encouraging societies formed for self-culture, supplementing the work of the public schools.

The Club: How a man spends his time at work may be taken for granted, but how he spends his hours of recreation is really the key of his progress in all the virtues. To provide a place where one may occupy his time in systematic physical development, in amateur athletics, in healthful games and profitable intercourse.

Music Hall: Here you will have your entertainments and meetings for educational and philanthropic purposes. To contribute toward the ethical and moral spirit of the community by providing a meeting place for free musicales and entertainments, a suitable hall for public gatherings.

The best return to the giver is to make a proper and steady use of all which is sought here to place within their reach.

The gift of a park to Homestead and a hospital endowment of \$500,000 makes H. C. Frick one of the three great benefactors of this community.

The Library has encouraged literary and study clubs until at times there are as many as twenty-five clubs, with a membership of 1,000.

The Boy Scouts of America with a membership of 400 have their own Scout Executive, whose office is in the Library building. The Scouts participated in the War Drives, organized their own band, pushed the walnut tree propaganda, and conduct their own summer camp on the shore of Lake Erie.

The office of the activity executive of the Welfare Department of the Homestead Steel Works is located in the Library. This official has under his control two playgrounds, two ball fields, a community house, and many coöperative activities in connection with the Library, schools, and other organizations.

The railroads of this district are the Pennsylvania, the Pittsburgh & Lake Erie, Western Maryland, Wabash Pittsburgh Terminal, Baltimore & Ohio and Bessemer & Lake Erie railroads. Street car lines connect the town with Pittsburgh, Braddock, McKeesport and Duquesne, all of which places are within a half hour's ride.

The general business interests are progressive. Homestead has a large trade, both retail and wholesale; there are about three hundred regular stores, besides a large number of bakeries, meat markets, confectionery, cigar and stationery stands, and various other smaller shops as well as several wholesale houses. Good automobile roads reach out from the town in all directions, and the Homestead and Mifflin Street Railway Company, a local corporation, maintains a fine amusement park two miles outside the city limits.

Munhall is on the opposite side of the river from the east end of Pittsburgh, and in juxtaposition. It is the seat of the Homestead Steel Works, nine-tenths of which are located in this borough. Because of the vast wealth in these mills, Munhall is sometimes said to be the richest borough in the world. Outside of the mills it is largely a resi-

dential community, a village of homes mostly occupied by employees in the mills. Many of the houses were built and are owned by the Carnegie Land Company. These houses are rented to officials and other mill employees. Seven of these are mansions of a pretentious type, while the rent of the remaining houses is more within the reach of a modest salary. Over one hundred houses have been built by employees who were aided financially by the Carnegie Land Company, a subsidiary organization of the Carnegie Steel Company. The site on which Munhall is located was at one time the City Poor Farm and Munhall estate. A valley, some sixty feet deep, running through this farm, was filled by cutting down a hill-top. This was accomplished at great cost, after which the lots were sold to home builders rather than speculators. A square and a small triangle of land were given to the borough for public parks; another square was given for library purposes. All streets are paved and laid out after the manner of a public park rather than the usual rectangular style. Evidently it was expected that this whole community would eventually belong to Homestead. The Library, while located in Munhall, is named the Carnegie Library of Homestead.

The Greek Catholic Union is the national headquarters for the Slovak and Russian benefit lodges in the United States and Canada, numbering 650, with a membership of 70,000. The "Amerikansky Russky Viestnik," a weekly newspaper, and the "Falcon," a monthly magazine devoted to gymnastics, with a circulation of 70,000 and 60,000 respectively, are published by this organization.

The first Carnegie enterprise was a forge plant in Allegheny which was transferred to Braddock under the name of Carnegie Brothers & Co., which was later reorganized under the name of Carnegie, Phipps & Co., Limited. The Homestead Steel Works was started in 1880 under the Pittsburgh Bessemer Steel Co., which was taken over by Carnegie, Phipps & Co. in 1883. In 1892 the Carnegie Steel Co. took possession. Eight years later the present name was adopted.

The Homestead Steel Works, which is now a subsidiary company of the Carnegie Steel Company, is composed of the Homestead Steel Works, Carrie Furnaces, Howard Axle Works and Schoen Steel Wheel Works at McKees Rocks. The operation of these mills requires 12,000 employees. The plant now covers 124 acres. Seventeen hundred cars with a total length of thirteen miles are handled daily. Twenty-five thousand tons of steel are produced daily. This production requires 65,000,000 cubic feet of gas. The Homestead plant is famous for its armor plate, of which 15,000 tons may be made annually. The length of railroad track in the mills is 125 miles. The tonnage of this little railroad system is approximately 5,500,000.

The contest between capital and labor that occurred here in 1892 was one of the most conspicuous in this country. It resulted in the loss in power to the agitator, and a gain in confidence and contentment to the men. Those in authority were taught the value of the individual, and from that time a systematic effort has been made to make the man better, knowing that his efforts will thereby become more efficient.

There are many features in the equipment and management of the

steel works that indicate the dominant idea that men are more valuable and more desirable than steel. There is a sanitary and safety first equipment. An emergency hospital contributes toward the immediate needs of the injured, after which they are taken to the best hospitals of Pittsburgh, where every necessity is provided gratuitously to the patient. The men in the mills are entitled to the benefits of the Carnegie Pension Fund, which is endowed with \$5,000,000. The benefits offered by the steel works are better than the State insurance, and for this reason the Carnegie Fund is allowed to take precedence over the State insurance. The company's stock is sold to the employees at a low rate to encourage thrift and interest. The *esprit de corps* in the Homestead plant is said by high authority to be the best of any plant in the United States Steel Corporation.

The superintendents of the Homestead mills from the beginning are: Andrew Kloman, William Clark, David Williams, Charles L. Taylor, Julian Kennedy, John A. Potter, Charles M. Schwab, William E. Corey, Alvin C. Dinkey, Azor R. Hunt, Alfred A. Corey, and John S. Oursler. Andrew Carnegie and Henry Clay Frick were never superintendents, but were members of the board of directors.

West Homestead has numerous active industries, among which are the Howard Axle Works, belonging to the Homestead Steel Works, employing 1,200 men; a branch of the American Car Wheel Works with 1,000 employees; the Mesta Machine Company, employing 1,500 men; the Federal Corporation Company where cap pistols are made; Harbison & Walker Refractories, which manufacture tile, brick, and various clay products, employing 400 men; Homestead Brick Company, 50 men; railroad yards of the Pennsylvania and Pittsburgh & Lake Erie railroads, 1,000 men, as well as other smaller plants. There are also three lumber yards and about twenty stores of different kinds.

West Homestead receives its water from the South Pittsburgh Water Company and from the Homestead municipal water plant. Its light service is received from the Duquesne Light and Power Company. The borough is connected with Pittsburgh and neighboring boroughs by the Pittsburgh Railway Company. There is a volunteer fire company with automobile and chemical apparatus. All streets and ways are paved. West Homestead is separated from Homestead by Hays street. There is one church. Most of the population attend church in neighboring boroughs. It has a graded public school, built in 1903 at a cost of \$75,000. It has ten teachers and four hundred and twenty-five pupils. The old Homestead Hospital was located in this borough. The spiritual welfare of this district is well provided for by the fifty churches within its boundaries:

Baptist—Clark Memorial (colored) East 13th Ave.; First Baptist, 9th Ave. and McClure; First Hungarian, 149 East Fourth Ave.; Mount Rise (colored) New Homestead; Munhall Terrace Baptist (colored) Homestead Ave., corner West Ave.; Second Baptist (colored) 222 East 6th Ave.; Welsh Baptist, 226 East Ninth Ave.

Christian—First Christian, Ninth Ave. and Dickson.

Congregational—First Congregational, McClure and Elm way.

Episcopal—St. Matthews, McClure and Tenth Ave.

German Evangelical—St. Mark's Protestant, 222 East Ninth Ave.

Lutheran—Messiah Evangelical, 1206 West St.; St. John's Evangelical, Tenth Ave. and Ann.

Methodist Episcopal—Ann Ashley, Twenty-second St.; First, Tenth Ave. and Ann St.; Free, Whitaker; Hays, Hays; Munhall, Ravine St.; Park Place (colored) 215 East Tenth Ave.; West Homestead, Eighth Ave. and Evans.

Pentacostal—Church of the Nazarene, West St., Munhall Terrace; Church of the Nazarene, Lincoln Place.

Presbyterian—First, Ann and Ninth Ave.; Lincoln Place, Haslett and Risher Ave.

Reformed—First, Fifteenth and Mifflin St.; First Hungarian, Tenth and Dickson, Munhall; First United, Fourth Ave. and Amity.

Hebrew—Rodef Shalom Congregation, Tenth Ave. and McClure.

Roman Catholic—Holy Angels, Hays; St. Ann's Slovak, Fourth and Ann; St. Anthony's Polish, Fifth Ave. near McClure; St. Francis, McClure and Ninth Ave.; St. Mary Magdalene, Tenth Ave. and Amity; St. Michael's, Ninth Ave. and Library St., Munhall; SS. Peter and Paul, Lithuanian, Fourth Ave. and Ann; St. Elias Greek Catholic, Magyar, Ninth Ave. and McClure; St. John's Greek Catholic, Tenth and Dickson, Munhall.

Greek Orthodox—St. Gregory's, Russian, Fourth Ave. and Ann.

Besides these churches, the Salvation Army conducts an aggressive religious work. The beneficial and social side of life is abundantly represented in the fifty-six societies and orders.

The new Homestead Hospital, Eighteenth and West, is new and up-to-date in every respect. It was built at a cost of \$200,000. The State conducts a state tuberculosis dispensary with a local doctor and a professional nurse.

The interest, enthusiasm, and contribution towards the success of the Commonwealth of Pennsylvania in the World War will go down in history as its most vital epoch. The population has a large percentage of men and especially single men, which accounts for its large quota of enlistments. Many of these soldiers were from the countries that were already on the side of the Allies, hence had in them the double portion of patriotism. The men that remained at home "kept the home fires burning" that made the shot and shell that broke the morale of the Huns. The "Liberty Mill" was planned, built and operated in six months. The product of this mill was used in the construction of the emergency fleet.

Every drive for liberty loans and welfare work that was made during the war went "over the top" with a one hundred per cent. record. The Homestead branch of the American Red Cross, Pittsburgh Chapter, with its ten sections in different parts of the community, had 1,617 workers. These loyal women raised \$199,882.68, and their production amounted to 109,902 surgical dressings, 31,947 hospital garments, 29,789 hospital supplies, 23,775 knitted articles, 6,624 refugee garments, 1,556 layette garments, and 1,148 comfort kits. The headquarters was in the Elks' Temple. The surgical dressing section was conducted in the Carnegie

Library. Aside from what this war-effort did at the front it certainly had the effect of creating a closer and more wholesome community spirit, and a high type of morale that will elevate the generations yet to come.

NOTE—The foregoing Homestead narrative is by Mr. William F. Stevens, Librarian of Carnegie Library of Homestead.



MEN WIDELY FAMED



Orin Schwab

MEN WIDELY FAMED

CHARLES M. SCHWAB—During the critical years of the European War there was no name more often on the public tongue and in the daily and periodical press in connection with events of world-wide import than that of Charles M. Schwab. Prior to that period, he had come into international fame as the greatest steelmaster of his time, an industrial leader and magnate without a peer. But there was in store for him richer opportunity, larger service, than industry and commerce could supply. As the head of a vast enterprise he had consummated business deals that had brought him into touch with the leaders of many European governments. With the entry of the United States into the war and the establishment of close coöperative arrangements between the government and the Bethlehem plants, Mr. Schwab became the advisor of the Administration in regard to engines of war and munitions. In the mammoth plants under his control he achieved results in the manufacture of war materials that made even experts stand amazed, and placed in the hands of the soldiers and sailors of the United States a large share of the instruments of victory. He entered into the ship-building industry upon the same gigantic scale, and attained so commanding a position in that field that he was called in April, 1918, to the post of director-general of the Emergency Fleet Corporation.

But the mere recital of his war-time activities would require a volume in themselves. Aside from the potent influence of his steel works and ship yards was his splendid marshaling of the forces of labor in support of the government, the strong impetus he gave to all five Liberty Loans, the inspiration of his wholehearted, generous support and leadership of Red Cross campaigns and the work of all relief organizations and those formed for personal work among the soldiers and sailors of the country. All this and more he did with the infectious enthusiasm, the abounding good-will, the sincere earnestness, the indomitable forcefulness that characterize all his actions. Men, women, and children in all classes of society came to look upon Charles M. Schwab as a personal friend, to speak of him intimately, and to constitute a rampart of support on all occasions. The following record can but faintly suggest the high place he has come to fill, not only, as one of his biographers writes, as a "Field Marshal of Industry," as the greatest industrialist of the world, but as a man and an American.

Charles M. Schwab was born in Williamsburg, Blair county, Pa., Feb. 18, 1862, his parents, John and Pauline (Farabaugh) Schwab, moving to Loretto, Cambria county, Pa., when he was a small boy. He attended the local schools, completing his studies in St. Francis's College. His father had engaged in business in Loretto, and also held a government contract for carrying the mail between Loretto and the nearby town of Cresson Station, and for a time the son, Charles M. Schwab, drove the stage between these places. In 1881 he entered the employ of

the Carnegie Steel Company in the Edgar Thomson Works at Braddock, where his industry and his application to duty quickly attracted the attention of Captain William R. Jones, then superintendent of the Edgar Thomson Works, and whose important share in the development of the modern steel industry and remarkable genius as an organizer and leader of men makes him one of the best remembered figures in the history of steel-making. Captain Jones was unsurpassed as a judge of a man's ability, and soon discovered the indications of the mechanical genius and the capacity for the management of men and affairs which were great factors in Mr. Schwab's later success. So the young man was given new and greater responsibilities month by month, gladly assuming every task assigned him, tireless, studious, cheerful. At each new station he learned other details of steel-making and mill management, and in less than a year he was Captain Jones's chief assistant, and upon the death of Captain Jones, Mr. Schwab was appointed superintendent of the Edgar Thomson Works.

In 1883 he married Emma Eurana Dinkey, of Braddock, Pa., and Mrs. Schwab, to use Mr. Schwab's own words, has been "aid, counsellor and friend," at once his inspiration and his guiding star, and whose quiet benefactions and unheralded charities supplement and round out those of Mr. Schwab himself.

In 1892 he was made superintendent of the Homestead Works also, and at that particular period the Homestead Steel Works presented a problem in management such as has seldom pressed upon any man for solution. Mr. Schwab proved to be a genius of organization and of administrative tact, and his work, then and afterwards, was so thorough in the management of affairs and men that in 1896 he was made a member of the board of managers of the Carnegie Company, being elected its president the following year. He had thus, at the age of thirty-five, become the chief executive of what was then the greatest manufacturing corporation in America, and had attained that place in sixteen years from a very modest beginning. He had earned the place, for in all the thousands that had entered the Carnegie employ, he had shown the best results in the open tournament of brains. The years of his employ had been the years when the minds and energies of all the leaders in the industry had been chiefly directed toward the problem of making more steel and better steel, and to quicker production. In the attainment of this end, Mr. Schwab contributed most successfully, and the presidency of the Carnegie Company was the prize he had gained in that competition. As the president he made the position of the company increasingly strong, and its dominance of the steel situation more and more complete.

At this time he broached the plan, long formed and perfected in his mind, to unite into one harmonious unit the various steel producing plants throughout the country, with their correlated ore mines, coking plants, limestone quarries and their service railroads, and he made the first step by inviting J. P. Morgan, head of the banking firm of J. P. Morgan & Company, to prepare the financial details. Mr. Morgan was

used to doing on a magnificent scale, but this proposition staggered him. However, Mr. Schwab had the facts and the figures, and, what was almost equally important, the prestige of success, with the phenomenal growth and dominating influence of the Carnegie plants under his management furnishing a concrete example of what he had done and a tangible demonstration of what he could do. Mr. Morgan then agreed that the plan was not only practicable, but of the most vital interest not only to the steel trade, but in its stimulating and progressive effect to the business interests of the whole country.

Among the steel producers, Mr. Schwab changed the sceptical into the most earnest supporters; he won over to his plan the fearful and the timid, removed doubts and allayed jealousies. These strides towards the goal, prodigious as they were, were as nothing to the task yet to be undertaken. The various outside steelmakers were won over to the plan, the Morgan group were in hearty accord, the arch needed but the keystone to make it firm and enduring.

The question was: What would Mr. Carnegie do? He needed no aid, and sought no alliances. His interests easily dominated the steel trade; no outside alliance could affect him, and without him no alliance could stand. Mr. Schwab had taken all this into account, and his calm presentation of the situation to Mr. Carnegie, his forceful array of the benefits to accrue, not to the steel trade alone but to the business interests of the whole country and its general welfare, induced Mr. Carnegie to take under consideration from Charles M. Schwab a proposition that from anybody else he would have laughed to scorn. So Mr. Carnegie consented, not for gain, not to conserve a position long unassailable and, so far as human foresight could tell, absolutely impregnable, but as a sound business proposition joined to an affectionate tribute to the genius and ability of the man who had made the Carnegie interests what they were. With Mr. Carnegie's consenting to join in the movement, it remained only necessary to arrange the details, and it was Mr. Schwab's array of facts and figures, and his cogent arguments that convinced the negotiants of the enormous value of the Carnegie plants, and persuaded them to pay the price, which at first they had regarded as absolutely prohibitive, at which the Carnegie interests were offered.

Thus from the fertile brain of Charles M. Schwab was born the mighty United States Steel Corporation, the like of which the world has never seen. When the consolidation was effected, Mr. Schwab, at the age of thirty-nine, became its first president, and for this organization he gathered together the most gigantic working force and created the most complete industrial system ever serving a private corporation. When, after three years, he resigned the presidency, he had made the system a marvel of coördinating forces and an industrial organization without an equal.

After leaving the presidency of that corporation, Mr. Schwab obtained controlling interest in the Bethlehem Steel Company, which marked a new era in a career unequalled in achievement and usefulness in the history of industry. Established by John Fritz, the plant of the

company had been built from a small rail mill to one of the leading steel mills of the world, holding government contracts for the manufacture of big army and naval guns, and armor plate for the ships of the new navy. Under Mr. Schwab's direction its leadership in this line was maintained, departments already established greatly expanded, and extensive new departments were added, so that the plant's output became enormously large in pig iron, rails, structural steel, forgings, castings of steel, iron, brass and bronze, gas engines, power machinery, tool steel, bar steel and iron, special alloy, and crucible steel.

With a plant unexcelled in the industry and capable of supplying any demands made upon it, Mr. Schwab soon gained a reputation as a business "getter" equal to his prestige as an industrial organizer. He went to all parts of the world in the acquisition of contracts for steel materials of all kinds, and conducted deals with the leading business and public men of many countries. The outbreak of the European War and the awarding of heavy contracts to the Bethlehem plant caused the establishment of many additional departments for the manufacture of ammunition and ordnance for the Allies, and all kinds of war materials were produced in vast quantity. Mr. Schwab was in close touch with the heads of the war departments and ministers of munitions of the European countries comprising the Allies, and his plants constituted their chief source of American supplies of guns and munitions.

A great policy of expansion had been followed by the Bethlehem interests prior to this time, Mr. Schwab organizing the Bethlehem Steel Corporation and assuming the direction of both companies as chairman of the board of the Bethlehem Steel Company and of the Bethlehem Steel Corporation. The holdings of these companies had largely increased, new plants had been erected, and when the United States entered the war, Mr. Schwab was able to place at the service of the government a wonderfully efficient organization, trained and experienced in the production of war supplies, capable of expansion to a degree that would make it the foremost gun forging and ammunition manufacturing plant in the world. And this expansion is exactly what history has recorded. In consultation with the president and the heads of the war-working departments of the government, Mr. Schwab outlined the possibilities of the Bethlehem plants, and from the declaration of war until the signing of the armistice these plants were operated at maximum speed every hour of the twenty-four, seven days a week, the performances of separate departments and of the plant in general a revelation even to industrial veterans. Mr. Schwab's spirit permeated all of the plants of the company, and "Service for Victory" was the slogan that brought labor squarely behind the government with a loyal and enthusiastic purpose that the most liberal system of bonuses, in ordinary times, could not have made possible. As for Mr. Schwab, supported by lieutenants of tried ability and proved fidelity, he was tirelessly and constantly at work on the many movements that directly and indirectly were to make victory certain. Himself a subscriber in millions to all of the Liberty Loans, he was a leader in every drive, and was instrumental in securing additional

millions in subscriptions. To the American Red Cross he gave not only of his time and his means, but turned over the lower floors of his Riverside Drive home in New York City for use as a chapter work room. All of the organizations working personally among the soldiers and sailors knew his generous support, and there was never a call to which he did not respond, whether to make a speech, appear in a parade, make a contribution, or serve on a committee. His war work was on the same wide scale as his business and industrial activities, and he was a potent factor in the creation of loyal sentiment and government support throughout the nation.

Entering into shipbuilding just when the need of organized effort in that field became apparent, the Bethlehem interests acquired control of yards that placed them in a leading position in this industry, and under Mr. Schwab's dynamic influence the yards controlled by the Bethlehem Shipbuilding Corporation established standards of speed and efficiency in ship construction that far surpassed any previous records. The numerous contests and prizes for records were in many instances of his inspiration, and in the shipyards, as in all the Bethlehem plants, his sincere friendliness, genuine cordiality and devoted patriotism brought him close to the hearts of his men, who came to consider him as an intimate associate and a partner in their work.

On April 16, 1918, Mr. Schwab was called into conference by President Wilson, and his appointment as director-general of the Emergency Fleet Corporation followed, a tribute both to his organizing genius and industrial leadership, and to his whole-hearted patriotism. With the need for ships looming up as the most formidable obstacle in the road to victory, he took over the direction of all the shipbuilding plants of the United States, and his accomplishments in this capacity were a repetition of his fruitful labors in many fields. He grasped the entire situation, and in an incredibly short time coördinated the whole shipbuilding industry, speeding up production, one launching following another, sometimes singly, sometimes in groups, with a rapidity that brought relief to anxious, waiting forces in the field, and to the national leaders renewed confidence and elation. Mr. Schwab's name became a household word throughout the country, and his shipbuilding accomplishments a subject of wonder and jubilation. The news of the launching carnival at all yards on the Fourth of July, 1918, came with the cheering effect of a decisive victory to the troops in France. An incident at the time of Mr. Schwab's acceptance of his high post is indicative of the spirit that permeated and was maintained through his entire administration. Turning to his associates of the Emergency Fleet Corporation, he asked, "Boys, will you stick by me and help?" and the response of those usually calm and dignified generals of business and finance was vociferous cheering and loudshouted assurances of support. "You bet we will, Charlie," came the answer, and in this steadfast support Mr. Schwab found one of the main instruments of his strength.

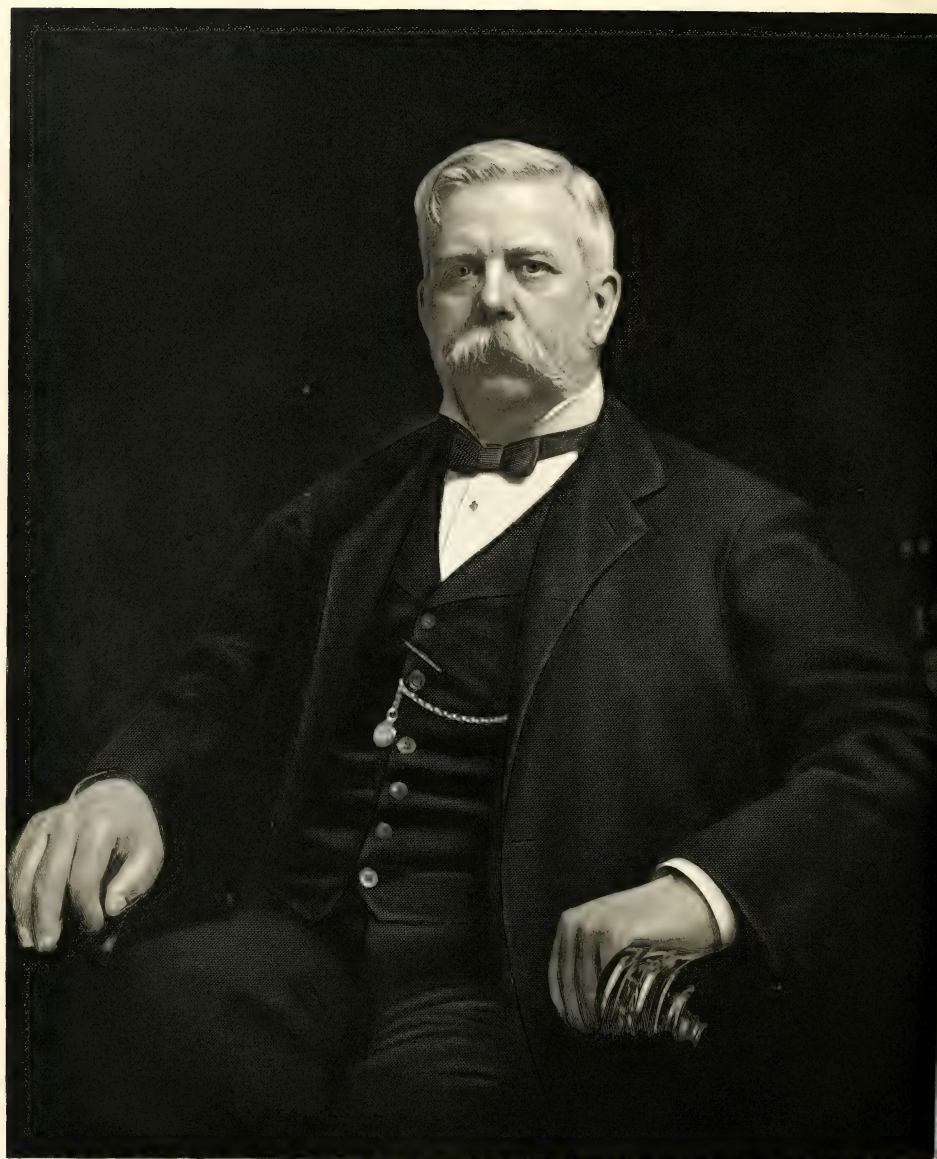
One of the shipbuilding feats he accomplished, and not the least among them, was his turning out fleets of submarines, fully equipped,

before the Allies thought the hulls were even well under way, and these terrors of the deep, under their own power, crossed the ocean and calmly shoved their noses into the waters of an Allied sea base to do their share in the great conflict for justice and humanity, long before the time the Allied Powers had believed it possible even to launch them. For the mighty aid he gave them throughout the war, the Allied government vied in honoring him, and one of the most signal of these recognitions of his services was when, at his country home at Loretto, where thousands of his friends had gathered to do him honor, the ambassador and minister plenipotentiary from France, in the name of the French government and people, created him a Chevalier of the Legion of Honor.

Such was the advance of Charles M. Schwab from obscurity to the position of the world's greatest industrialist and one of the foremost Americans of his time. The above record is of work that has made him of national and international reputation, while he is the center of activity of particular interest to Bethlehem and Pennsylvania. He has a residence in Bethlehem, also, and is a most generous friend of many worthy Bethlehem institutions. He is the chief guarantor of the Bach Choir, a trustee of St. Luke's Hospital, and has made numerous large gifts to Lehigh University, of which also he is a trustee. Among his many benefactions are the gift of a Roman Catholic church to Loretto, Pa., the scene of his boyhood years and the location of his present summer home, which is one of the most beautiful church edifices of the State; the Convent House at Cresson; a church at Braddock; an industrial school at Homestead; a school at Weatherly, all in Pennsylvania; an auditorium to the Pennsylvania State College; a recreation park and sanatorium for children on Staten Island; and numerous others, the wisdom of their choice and enduring influence for good, the evidence of his earnest thought. Between Loretto and Cresson he caused a modern road to be constructed, and in civic affairs of the city of Bethlehem he is an interested participant; is a member of the City Planning Commission, and made the largest individual contribution to the \$2,500,000 "hill-to-hill" bridge connecting Bethlehem, West Bethlehem and South Bethlehem, and was chiefly instrumental in causing the consolidation of the three Bethlehems named under a city form of government, which came into existence, Jan. 1, 1918. He has been honored by Lehigh University with the degree of Doctor of Engineering, conferred in 1916, and Cornell University, of which he is also a trustee, conferred the same degree upon him; while from Lincoln Memorial University he received the degree of Doctor of Laws in 1917, and from New York University the degree of Doctor of Commercial Science in 1918.

In addition to his chairmanship of the boards of the Bethlehem Steel Company, the Bethlehem Steel Corporation, and the Bethlehem Shipbuilding Corporation, Mr. Schwab is a director of many large corporations. He is a member of numerous clubs, a director in the American Iron and Steel Institute, and a member of the Iron and Steel Institute of London, England.

Besides his residence in Bethlehem and his Riverside Drive home in



Geo. Westinghouse

New York, Mr. Schwab has one of the most beautiful summer homes in the country at Loretto, Pa., where he lived as a boy.

No review of Mr. Schwab's activities could be even fairly descriptive without at least a brief allusion to some of the other things that, aside from administrator and executive, add interest to his career and personality. Few know that he is a finished musician, quite capable himself of wielding the leader's baton, and that upon occasion he has done so in the most accomplished manner. Occasionally, too, he is induced to contribute a short article on some current topic of interest. And a careful resumé of his characteristics brings out what at first does not attract the attention of the most careful observer. This is his wonderful mastery of himself. Amidst scenes and surroundings well calculated to shake the strongest in time of stress and strain, he moves calm, serene, imperturbable.

GEORGE WESTINGHOUSE—As long as Pittsburgh's industrial power shall endure and men benefit through the fruits of scientific research, the name of George Westinghouse shall stand as one of the greatest scientists, inventors, and industrialists in American history. The future can bring no progress, science can produce no wonders, man can attain no high estate, that will darken the brilliance of his achievements in the latter part of the nineteenth and the early years of the twentieth centuries.

Mr. Westinghouse was born Oct. 6, 1846, at Central Bridge, Schoharie county, N. Y., son of George and Emeline (Vedder) Westinghouse. His paternal ancestors came from Germany and settled in Massachusetts prior to the Revolution. Through his mother he was descended from a Dutch-English ancestry, claiming kindred with many who have won distinction along the lines of art, education and religious work. In 1856 the family removed to Schenectady, N. Y., where the father, who was an inventor, established the Schenectady Agricultural Works.

George Westinghouse, son of George Westinghouse above named, received his earlier and preparatory education in the public and high schools of Schenectady, and at Union College, receiving the degree of Ph. D. in 1890. During his educational period he spent much of his leisure time in his father's machine shop. The opportunity which he thus enjoyed of familiarizing himself with all kinds of machine work, he afterwards regarded as of great importance in laying the foundation of his subsequent success. At the age of fifteen he invented and constructed a rotary engine, and he had also gained the knowledge necessary for passing at an early age the examination for the position of assistant engineer in the United States Navy. In June, 1863, he enlisted in the Twelfth Regiment, New York National Guard, for thirty days service in the Civil War. In July, at the expiration of his term, he was discharged, and in November of the same year he reenlisted for three years in the Sixteenth Regiment, New York Cavalry, being chosen corporal. In November, 1864, he was honorably discharged, and on December 14, following was appointed third assistant engineer in the United States

Navy, and reported for duty on the "Muscoota." June 4, 1865, he was transferred to the "Stars and Stripes," and on June 28, of the same year, was detached and ordered to the Potomac flotilla. At the end of the war Mr. Westinghouse, being desirous of continuing his interrupted studies, resisted solicitations to remain in the navy and tendered his resignation, receiving an honorable discharge Aug. 1, 1865.

On returning home he entered Union College, remaining until the close of his sophomore year. During his military and naval career the inherited impulse toward experiment had not lain dormant, but had moved him to invent a multiple cylinder engine, and while a college student he found it extremely difficult to resist the tendency which was ever so marked a trait in his character. Accordingly, Mr. Westinghouse, after conference with President Hickok, of Union College, and by his advice and appreciative suggestion, discontinued his classical studies and sought in active life a wider field for his inventive genius.

In 1865 he invented a device for replacing railroad cars upon the track, and this device, made of cast steel, was manufactured by the Bessemer Steel Works at Troy, N. Y.. One day while on his way thither, a delay caused by a collision between two freight trains suggested to Mr. Westinghouse the idea that a brake under the control of the engineer might have prevented the accident. This was the germinal thought of the great invention with which his name will ever be associated—the air-brake. Among the various devices which occurred to him was that of a brake actuated by the cars closing upon each other. No experiments were made, but the car-replacer business was developed. In Chicago, in 1866, he met a Mr. Ambler, inventor of a continuous chain-brake, having a chain running the entire length of the train, with a windlass on the engine that could be operated by pressing a wheel against the flange of the driving wheel of the locomotive, thus tightening the chain and causing the brake-blocks to operate upon the wheels of the car. Upon showing some interest in the brake question, Mr. Westinghouse was informed by Mr. Ambler that it would be no use working upon the subject, as the Ambler patent covered the only practical way of operating brakes. This, however, did not deter Mr. Westinghouse from further investigation and he gave himself more earnestly than ever to studying the necessities of adequate protection against accident. He met with an account of the operation of the drilling apparatus in the Mount Ceniz tunnel, at a distance of three thousand feet from the air compressor. The use of compressed air in drilling suggested to him its possible employment for the operation of the brake, compressed air being free from the objections to the use of steam. Having made drawings of the air pump, brake cylinders and valves, he explained them to the superintendent of the New York Central railroad, who declined to try the apparatus. After filing a caveat he made the same request for a trial to the officers of the Erie railroad, and with the same result.

In 1867 he established steel works in Schenectady for the manufacture of the car-replacer and reversible steel railroad frogs, but lack of capital proved an obstacle. As a result of correspondence, the inventor was in-

vited to Pittsburgh, where he made a contract with the Pittsburgh Steel Works for the manufacture of steel frogs, he himself acting as agent for their introduction. After repeated failures to interest railroad companies to take the right to the use of the brake and to assume the expense of a trial, in 1868 he met Ralph Baggaley, whom he succeeded in interesting in a description of the invention, and who, on being offered a one-fifth interest if he would bear the expense of apparatus sufficient for one train, accepted the proposition. After it was constructed, permission was given by the superintendent of the "Pan Handle" railroad to apply it to an engine and four cars on the accommodation train running between Pittsburgh and Steubenville. This train was fitted in the latter part of 1868, and the first application of the brake prevented collision with a wagon on the track. The first patent was issued April 13, 1869, and the Westinghouse Air Brake Company was formed July 20 of the same year. The first orders for apparatus were from the Michigan Central Railroad Company and the Chicago & Northwestern Railway Company. The invention was perfected and works for its manufacture were completed by 1870. Constant attention was given to details, so that the brake underwent many changes. The policy of issuing no rights or licenses, but confining the manufacture to one locality and keeping it under one management, has been of the greatest possible use to the railroads in securing uniformity in brake apparatus throughout the United States and adjacent territory.

In 1871 Mr. Westinghouse went abroad to introduce the air-brake in England—an undertaking which proved no easy task, inasmuch as the trains in Europe had hand-brakes upon only what were termed "brake-vans," there being no brakes upon the other vehicles. He was thus required, between 1871 and 1882, to spend in all seven years in Europe, and his inventive ability was severely taxed to meet new requirements of railroad practice. He had in the meanwhile invented the automatic feature of the brake, which overcame other imperfections in the first form, and removed the danger from the parting of trains on steep grades. In 1886 he invented the "quick action" brake, the improvement being made in what is known as the "triple valve." By this improved valve it became practicable to apply all the brakes on a train of fifty freight cars in two seconds.

The patents taken out by Mr. Westinghouse on the air-brake are interesting in their variety, covering as they do every detail from the front end of the engine to the rear of the last car, and including stop-cocks, hose couplings, valves, packings, and many forms of "equivalents" of valves and other devices. Infringers of these patents have been invariably enjoined by the courts, which have declared the inventions to be of great value, pioneer in character, and therefore entitled to very broad construction. Scientists united in regarding the air-brake in its completed form as one of the greatest inventions of the nineteenth century, and its usefulness is attested by its almost universal adoption by the railroads of the world. The claimants of the honor have been many, but the decisions of the courts in upholding the Westinghouse patents destroy such claims, and the additional inventions, increasing the ef-

iciency of the brake, are sufficient to establish the superiority of Mr. Westinghouse.

In 1883 Mr. Westinghouse became interested in the operation of railway signals and switches by compressed air, and developed by the Union Switch and Signal Company. To operate the signals, compressed air is used as the power and electricity as the agent, to operate minute valves for setting the compressed air in motion. Under the patents obtained for this invention, the Union Switch and Signal Company has introduced in Boston, Jersey City, Philadelphia, Chicago, St. Louis, and many other places, what is termed the "Pneumatic Interlocking Switch and Signal Apparatus," whereby all the signals and switches are operated from a given point, using compressed air as the motive power into operation. Through this invention the movement of signals and switches no longer requires considerable physical force, the operations being controlled by tiny levers which a child can move. These plants are magnificent illustrations of what can be accomplished by a proper combination of steam, air and electricity.

In 1883 Mr. Westinghouse turned his attention to electric lighting, and began the manufacture of lamps and electric lighting apparatus at the works of the Union Switch and Signal Company. In 1885 he purchased the Gaulard and Gibbs patents for the distribution of electricity by means of alternating currents, and in 1886 formed the Westinghouse Electric Company, engaging actively in the manufacture and sale of all kinds of electrical machinery. In 1889-90 this company absorbed the United States Electric Lighting Company and the Consolidated Electric Light Company. In 1891 all these companies were reorganized into the Westinghouse Electric and Manufacturing Company, which has built very extensive works at East Pittsburgh, and employs about fourteen thousand operatives. In the construction of these buildings, as in all the others under his management and control, architects have, by direction of Mr. Westinghouse, borne in mind the health and comfort of those to be employed in them, and every proper provision has been made for their well being. About this time Mr. Westinghouse became interested also in electric lighting companies in New York, Philadelphia, Baltimore and Pittsburgh, and gave special attention to the problem of the generation and distribution of electricity for commercial purposes. In 1881 the Westinghouse Machine Company was formed to manufacture engines designed by H. H. Westinghouse, brother of the inventor.

In all the enterprises in which he was interested, Mr. Westinghouse's dynamic personality was a most potent influence. He gathered around him a group of engineers and scientists—men who dealt in an intangible thing, inventive power. In 1884, natural gas having been brought from Murrysville to Pittsburgh, Mr. Westinghouse suggested that drilling might develop natural gas in the Iron City, and accordingly he drilled a well on the grounds of his own residence, a venture which resulted in the production of gas in enormous quantities. An ordinance was enacted by the city authorizing him to lay pipes under the streets, and he purchased the charter of what is known as the Philadelphia Company, having

power to carry on the natural gas business, no law relating especially to this business being then in existence.

In 1892 the Westinghouse Electric and Manufacturing Company was given the contract for the illumination of the World's Fair at Chicago, and shortly thereafter the incandescent electric lamps manufactured by it were declared by the courts to be an infringement of patents owned by a competitor, consequently Mr. Westinghouse was obliged to immediately design and manufacture in large quantities an incandescent lamp which would not infringe upon them. This he did by making what was called the "stopper lamp," the use of which enabled the Westinghouse Company to fulfill its contract. This meant not only designing a lamp which would not infringe upon existing patents, but also designing and manufacturing the machinery for its production, all within a limited time. That Mr. Westinghouse succeeded and enabled his company to carry out its contract obligations, is one of the most remarkable *tours de force* in his career.

From 1899 to 1906 Mr. Westinghouse again spent considerable time in Europe, where he founded companies in England and France for the manufacture of electrical apparatus under patents owned by his American companies. Then came the financial panic of 1907 which involved three important Westinghouse companies—the Westinghouse Electric and Manufacturing Company, the Westinghouse Machine Company, and the Security Investment Company. Leaving largely to his associates the readjustment of the affairs of the two latter companies, which were practically his personal property, and disregarding his possible personal losses, Mr. Westinghouse concentrated all his energies on the arrangement of the finances of the Electric Company. So successful was he in this that in December, 1908, but little more than a year after the panic, the company's obligations were discharged, and it was placed upon a firm financial basis with cash assets of over seventeen million dollars.

Mr. Westinghouse's later work included the development of gas engines of large power, and steam turbines for land and marine use. In coöperation with Rear-Admiral G. W. Melville, U. S. N., he was the first to suggest the use of reduction gearing in connection with high speed turbines, and by the invention of what is known as a "floating frame" for gearing of this kind he inaugurated a new epoch in marine engineering. One of the latest but not least of the products of Mr. Westinghouse's genius as applied to mechanics was his air spring for automobiles and motor trucks, the first form of which was brought to his attention by its inventors while it was still in an experimental state. Mr. Westinghouse quickly recognized the possibility of such a device, and after several years of development and testing he brought out the air spring, which, because of the great increase in comfort and safety which it affords to motorists, promises to become as well known as the air-brake. In this air spring he accomplished the remarkable feat in mechanics of retaining air at a pressure of seventy or eighty pounds in a cylinder the piston of which is subjected to incessant reciprocating motion for hours at a time.

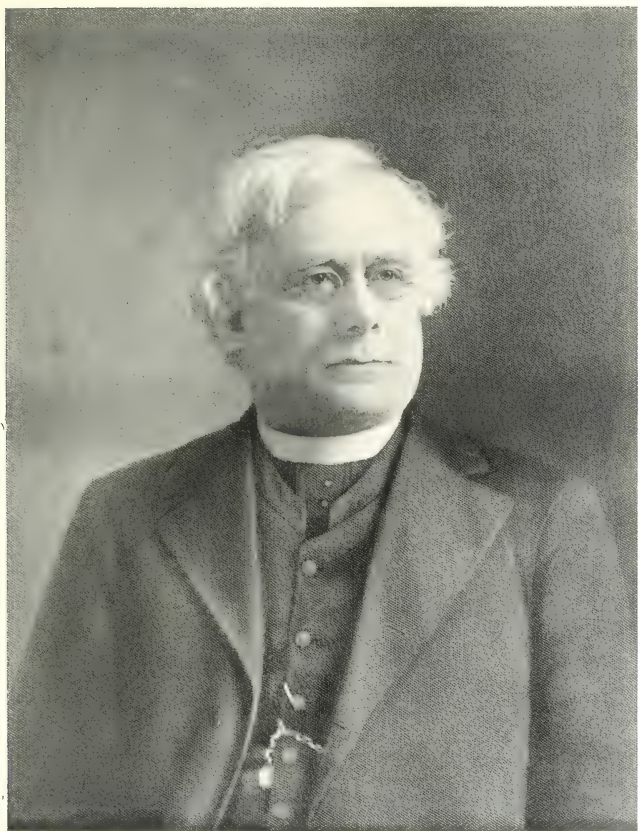
In addition to his mechanical genius, Mr. Westinghouse possessed the

most thorough familiarity with financial questions. He was connected with companies manufacturing the Westinghouse air-brake in the United States, Canada, England, France, Germany, Russia, Italy, and Australia, and founded companies for the manufacture of electrical apparatus in almost as many countries, in all employing about fifty thousand workmen. Among other companies in which he had large or controlling interest were: The Westinghouse Air Spring Company; the Cooper Hewitt Electric Company; the Pittsburgh Meter Company; the Westinghouse Friction Draft-Gear Company; the Westinghouse Traction Brake Company; the East Pittsburgh Improvement Company; the Nernst Lamp Company; the Union Switch and Signal Company; the Traction and Power Securities Company, Ltd., of London, England, and the Clyde Valley Electrical Power Company, Ltd.

In 1874 the Franklin Institute of the State of Pennsylvania awarded him the Scott premium and medal for his improvements in air-brakes; he received the decorations of the Legion of Honor, the Royal Crown of Italy, and the Order of Leopold of Belgium. In 1890 Union College conferred upon him the honorary degree of Doctor of Philosophy; in 1896 he was the second recipient of the John Fritz medal; in the same year he received the degree of Doctor of Engineering from the Koenigliche Technische Hochschule, Berlin; and in 1912 he was awarded the Edison gold medal for his achievements in the introduction and development of the alternating current system of distributing electrical energy. He was an honorary member and past president of the American Society of Mechanical Engineers; an honorary member of the American Association for the Advancement of Science; an honorary member of the National Electric Light Association; the Royal Institute of Great Britain; Academy of Political and Social Science in the City of New York; American Academy of Political and Social Science, Philadelphia; Franklin Institute; American Association for the Conservation of Vision; American Institute of Electrical Engineers; American Institute of Mining Engineers; American Society of Civil Engineers; American Society of Automobile Engineers; American Society of Naval Engineers (associate); American Protective Tariff League; American Museum of Natural History; Metropolitan Museum of Art, New York; New York Botanical Garden; Pilgrims of the United States; Japan Society of New York; Pan-American Society of the United States; and numerous social clubs.

Mr. Westinghouse married, August 8, 1867, in Brooklyn, N. Y., Marguerite Erskine Walker, and they became the parents of one son, George Westinghouse (3rd). Mr. Westinghouse died March 12, 1914.

REV. ANDREW ARNOLD LAMBING, LL. D., Roman Catholic priest and author, was born at Manorville, Armstrong county, Pa., Feb. 1, 1842. He is descended from Christopher Lambing, who emigrated to America from Alsace in the vicinity of Strasburg in 1749, and settled in Bucks county, Pa., where he died about 1817, at the age of ninety-nine years. Some of his family passed to Adams county, where his son Matthew married and settled in New Oxford, and where Michael A., the



A. A. Lambing

father of Rev. Andrew A. Lambing, was born Oct. 10, 1806. The family came west to Armstrong county in 1823. Here Michael A. Lambing married Anne Shields, Dec. 1, 1837. She was descended from Thomas Shields, who emigrated from County Donegal, Ireland, about 1760, and came to Amberson's valley, Franklin county, Pa., but his grandson, William Shields, came to Armstrong county in 1798, and made his home near Kittanning, where his daughter Anne was born, July 4, 1814. Michael A. Lambing was the father of five sons and four daughters, of whom Andrew Arnold was the third son and child. Both parents were remarkable through life for their tender and consistent piety, and for the care they bestowed on the education and training of their children. Three of their sons fought in the Civil War, one of them losing his life and another becoming disabled; two of their sons are priests, and a daughter a Sister of Charity.

Trained in the school of rigid poverty, Andrew A. Lambing began work on a farm before he was eight years old, and a few years later found employment in a fire-brick yard, where he spent nearly six years, with about four month's schooling in each winter, and two years in an oil refinery, a considerable part of which time he worked from three o'clock in the afternoon to six the next morning, being at the same time foreman of the works. During this time he managed to steal a few hours, as opportunity permitted, to devote to study and useful reading, for reading was the passion of his life. At the age of twenty-one he entered St. Michael's Preparatory and Theological Seminary, Pittsburgh, where he made his course in the higher studies, frequently rising at three o'clock in the morning to continue his course, and being nearly all that time prefect of the students. He was ordained to the priesthood in the seminary chapel by Bishop Domenac, of Pittsburgh, Aug. 4, 1869. He was then sent to St. Francis College, Loretto, Pa., as professor, with the additional obligation of assisting the pastor of the village church on Sundays with the exception of one Sunday in each month, when he ministered to the little congregation of Williamsburg, Blair county, about forty miles distant. On the following January he was appointed pastor of St. Patrick's Church, Cameron Bottom, Indiana county, Pa., where he remained until the end of April, when he was named pastor of St. Mary's Church, Kittanning, with its numerous out-missions. While there he built a little church a few miles west of the Allegheny river for the accommodation of the families residing there, and in the middle of January, 1873, he was sent to Freeport, with the additional charge of the congregation at Natrona, six miles distant. But at the end of six months he was appointed chaplain of St. Paul's Orphan Asylum, Pittsburgh, with a view of bettering his financial condition. This, however, was rendered impossible by the financial crisis of the fall of the same year, and he was named pastor of the Church of St. Mary of Mercy, at the point in the same city, Jan. 7, 1874. Here he placed the schools in charge of the Sisters of Mercy, bought and fitted up a non-Catholic church for the congregation, and placed an altar in it dedicated to "Our Lady of the Assumption at the Beautiful River" as a memorial of the one that stood in the Chapel of Fort Duquesne during the French occupation in the

middle of the previous century, and also built a residence. But the encroachments of the railroads began to drive the people out in such numbers that he was transferred to St. James' Church, Wilkinsburg, an eastern suburb of the city, Oct. 15, 1885. The congregation was then small, numbering about one hundred and sixty families, with a little frame church, but it soon began to increase rapidly. His first care was to open a school, which he placed in charge of the Sisters of Charity, and in the summer of 1888 he enlarged the church, which, however, was occupied only three months when it was entirely destroyed by fire. Nothing daunted, he immediately undertook the present combination church and school building, which was dedicated just a year after the destruction of the other. So rapid had been the growth of the town and the increase of the congregation that an assistant was required in the spring of 1897; and, although parts of three congregations have been taken from it, it still numbers nearly six hundred families.

As a writer Father Lambing was the author of "The Orphan's Friend" (1875), "The Sunday School Teacher's Manual" (1877), "A History of the Catholic Church in the Dioceses of Pittsburgh and Allegheny" (1880), "The Register of Fort Duquesne, Translated from the French, with an Introductory Essay and Notes" (1885), "The Sacramentals of the Holy Catholic Church" (1892), "Come Holy Ghost" (1901), "The Immaculate Conception of the Blessed Virgin Mary" (1904), and "The Fountain of Living Water" (1907). Besides these he has written a considerable number of religious and historical pamphlets, and a considerable part of the large "History of Allegheny County, Pennsylvania," "The Centennial History of Allegheny County" (1888), and "The Standard History of Pittsburgh" (1898). In 1884 he started the "Catholic Historical Researches," a quarterly magazine and the first of its kind devoted to the history of the Catholic church in the country, now continued by Mr. Martin I. J. Griffen, of Philadelphia, as a monthly; and he is a constant contributor to periodicals on religious and historical subjects. The editor of "The Standard History of Pittsburgh" says of him that: "He has done more than any other one man to place in permanent form the valuable and fast-perishing early records." For a number of years he was president of the Historical Society of Western Pennsylvania, and one of the trustees of the Carnegie Institute and the Carnegie Technical School of Pittsburgh.

As a churchman he was for many years president of the Clerical Relief Association of the Diocese of Pittsburgh, and was president of the board that prepared the diocesan school exhibit for the Columbia Exposition. For nine years he was fiscal procurator of the diocese of Pittsburgh, was long the censor of books, and also president of the diocesan school board. Of regular habits and inheriting the health of his fathers, standing six feet tall, with heavy frame, he seemed built for labor and endurance, and was more than thirty years on the mission before he was off duty for a single day on account of ill health, although he never took a vacation. In 1883 the University of Notre Dame, Indiana, conferred on him the degree of Master of Arts, and two years later that of Doctor of Laws.



Andrew Carnegie

ANDREW CARNEGIE—Lives of great men possess fascinating interest to the student of human nature, and one naturally seeks to discover the secret source of their power to rise superior to every circumstance; or to find the impelling force that drives them ever onward and upward until they scale the dizzy heights, passing all competitors, and standing alone before the entire world, unequalled in the greatness of their achievements. Often it is the influence of heredity, family and fortune, that furnishes the impulse; oftener still, ambition drives men forward, love of humanity and a sincere desire to be of benefit to their race is the motive, but none of these satisfactorily explain Mr. Carnegie's source of strength up to the culminating point of his business career. For one must not confound Mr. Carnegie, the business man, with Mr. Carnegie, the humanitarian. He was the first of all the restless money-maker, and later the philanthropist, whose princely benefactions are the wonder of two continents. But, consider him as you will, the source of his power was never revealed. Ask him the secret of his success as a steel master, and his reply was always recorded: "Write as my epitaph: He knew how to surround himself with abler men than himself." Yet that is not a reason; that is but an example of his greatness in executive management. The world has had its great iron masters, but none greater than he. Great philanthropists are not rare in either Europe or America, but none so princely in either the scope or magnitude of their benefactions. In every land, in every clime, the name Carnegie is a familiar one, and is synonymous with generosity. While we cannot fathom the source of his greatness, an approving world acknowledges the fact and holds him in honor and respect.

Andrew Carnegie was born in Dumferline, Fife, near Edinburgh, Scotland, Nov. 25, 1835, son of William and Margaret (Morrison) Carnegie. His father was a weaver of linen goods, in fairly comfortable circumstances, who gave the lad such advantages as the Dumferline schools afforded. In 1848, finding his occupation gone, Mr. and Mrs. Carnegie decided for the sake of their two boys to emigrate to the United States, believing the opportunities here were more plentiful for their advancement. "They builded better than they knew," but the father did not live to see the prosperity of his son; his mother, however, did. The family settled in Pittsburgh (North Side), where the lad Andrew obtained work in a cotton mill as bobbin boy at a salary of one dollar and twenty cents per week, which amount was added to the general family fund. Through the kindness of a Colonel Anderson, who made a practice of loaning books to boys and working men, he was able to supplement the education received at Dumferline with a course of good reading. Colonel Anderson also "builded better than he knew," for there was born in the lad's brain, as he realized the good he derived from the Colonel's kindness, a resolve that has resulted in the thousands of "Carnegie Libraries" all over the United States, Canada and Great Britain.

At the age of thirteen years, young Carnegie obtained a position in a factory, making bobbins, his duty being to attend the engine that furnished power to the mill. The work was too hard for a boy, but his

efforts had pleased his employer, who gave him a place in his office. At the age of fourteen years he secured a position as messenger boy in the office of the Ohio Telegraph Company in Pittsburgh, at a salary of two dollars and fifty cents weekly. Here he quickly saw an opportunity, and this was ever one of the secrets of his success. When opportunity knocked, he always "rose and followed." He began learning telegraphy, and never gave up until he was an expert operator, able to receive messages by sound, an art then exceedingly rare. As an operator he received twenty-five dollars a month. He attracted the attention of Thomas A. Scott, then superintendent and manager of the Pennsylvania railroad telegraph system, who made him his clerk at a salary of thirty-five dollars monthly. He remained with the Pennsylvania thirteen years, and after the election of Mr. Scott to the vice-presidency was appointed superintendent of the Western or Pittsburgh division. In that position he introduced many improvements, including the block system of operating trains by telegraphic signals. During the war between the States, when Colonel Scott was appointed Assistant Secretary of War, he placed Mr. Carnegie in charge of military railroads and government telegraph lines. One of his first duties was to reopen telegraph communications between Annapolis and Washington, and after the battle of Bull Run he was the last official to board the train for Alexandria. He was equal to all demands made upon him during this period, and who shall say that the inspiration for the Great Peace Building at The Hague did not come to him as a result of his war experiences.

It seems to have been Colonel Scott, later president of the Pennsylvania railroad, that gave the lad his first lesson in finance. While still a clerk, an opportunity presented itself to purchase ten shares of Adams Express Company stock, this corporation not then having reached great proportions. Colonel Scott strongly advised the purchase and the stock was bought, although it compelled the mother to mortgage her home to raise the necessary funds. This was his first investment. Later he met in a business way Mr. Woodruff, the inventor of the sleeping car bearing his name. Quick as ever to see an opportunity, he arranged a meeting between the inventor and Colonel Scott, which resulted in mutual profit, Mr. Carnegie securing money from the local bank to finance his share in the company. This was the first note he ever signed, and, like his venture in Adams Express stock, the investment was a profitable one. He was at this period in receipt of a good salary from the Pennsylvania, and had acquired some capital, for the money earned was husbanded with true Scotch thrift, but held in constant readiness for the next turn of the wheel. This came during the oil excitement in Pennsylvania. In 1884 he interested Mr. William Coleman in the project of purchasing the Storey farm in Oil Creek, Venango county, then purchased the farm for \$40,000, and formed a stock company whose shares represented at one time a value of \$5,000,000, and paid an annual dividend of one million. He was now a capitalist, and had made influential friends.

While with the Pennsylvania, that road contemplated the erection of an iron bridge and here Mr. Carnegie first became interested in iron

manufacture, in connection with the Keystone Bridge Company. He was farsighted enough (though unfamiliar with the business) to see the great possibilities of iron manufacture, and associated himself with others in various mills, foundries and furnaces in the Pittsburgh district. After a visit to Europe he saw that steel would surely supplant iron, and on his return introduced the Bessemer process of making steel. While not an inventor of any of the numerous processes, he gave every man with an idea every encouragement, furnishing plant and money, and for this the steel world owes him a debt of gratitude. As he grew in power he surrounded himself with young men who had proved their worth in the various plants of the Carnegie Steel Company, until he was surrounded by thirty of the most capable and enthusiastic men in the iron, steel, coke, mining or transportation world. But among the "thirty" his was the master mind by common consent. At the zenith of his power he was in control of great mills and furnaces turning out millions of pounds of manufactured steel daily; great coke fields and miles of ovens; vast ore beds in the Lake Superior region; steamers on the Great Lakes, carrying ore which they delivered to his double-track railroad that carried it to the Pittsburgh plants, four hundred and twenty-five miles away; great mines of bituminous coal in the Pittsburgh district were drawn upon for daily supply; while the men employed in the allied companies formed an army thoroughly drilled, well officered, and moved at the will of a master mind whom we know as Andrew Carnegie. Conditions in the industrial world had reached a crisis; a break had come with the Pennsylvania railroad, and through the southern tier of Pennsylvania counties eastward from Pittsburgh, a great railroad was being constructed to parallel the Pennsylvania. The great Carnegie interests were protecting themselves at every point—mills were planned to compete in lines they had heretofore been left to their rivals; when lo! over night as it were, arose the United States Steel Corporation, successor by purchase to every mill, furnace, bloomery, oven, mine, rail, locomotive and ship, hitherto owned by the many companies owned or controlled by Mr. Carnegie and his thirty partners. Peace came to the threatened steel industry; the Pennsylvania Southern was never completed, and Andrew Carnegie stepped from his proud position as the world's greatest ironmaster and constructive genius. The price paid him was fabulous; each of the trusted "thirty" retired, enriched many times beyond their wildest imaginings, while the great master was hundreds of times a millionaire. The greatest fortune of modern times was his, and from that moment began the second phase of this most wonderful life.

Fifty-three years had elapsed since the penniless boy landed in a strange land. He was now sixty-six years of age, and the problem now facing him was how to make good his own statement that "it is a crime for a man to die rich." As this article has made no attempt to give in detail the many ways in which this fortune was made, so there will be no attempt to give in detail the way it has been disposed of. Mr. Carnegie had given generously for many years, principally to institutions in the Pittsburgh district, a locality which he always regarded with love

and affection. He now began that wonderful career of worldwide philanthropy that has never been equalled, knowing no sect, creed nor nationality, but giving Pittsburgh first place, the United States second, and then his native land. He did not give at random, but followed carefully matured plans; gave almost exclusively along educational lines, and in a manner peculiarly his own. Upon retiring from business, the first considerable gift Mr. Carnegie made was one of five million dollars to his old employees—four million dollars for pensions and relief, and one million for the endowment of the three institutions (libraries, music halls, workmen's clubs, etc.), at Homestead, Braddock, and Duquesne. Outside his educational giving in its manifold forms, his most active effort was to bring about the Peace of Nations, and this position he firmly maintained.

Mention is necessary of his great educational gift to the city of Pittsburgh, commonly known as the "Carnegie Institute." This includes a wonderful building located in Schenley Park, covering four acres, and a separate building nearby, across a deep ravine, the home of the Carnegie Technical Institute. Under the roof of the larger building is a free library of mammoth proportions, a magnificent gallery, a most perfect music hall, with a great organ, where every Sunday afternoon a free organ recital is given, a hall of architecture and department of natural history, most wonderful in its scope. Twenty acres of floor space is in use, while the most costly marbles and finest of decorations adorn foyer, halls and stairways. Over the main entrance is engraved "This Building, dedicated to Literature, Science and Art, is the gift of Andrew Carnegie to the People of Pittsburgh." Nowhere else can there be found a similar building, containing library, music hall and museum, a school of technology with capacity for three thousand students, and a notable school for young women. One would like to dwell upon the value of this gift to the scientific world, to the young man and woman seeking a technical education, to the student whose days are spent among its wonders of natural history, architecture and art, to the school children whose goal it is, to those who so frequently draw upon its book treasures, and to those who every Sunday listen almost reverently to classic music drawn from the great organ by master hands. But this is impossible; the cost in dollars and cents of his various gifts, including all that have been named as his particular gifts to Pittsburgh, is in excess of thirty-one millions of dollars, and he rejoiced in the gift. His total gifts exceeded three hundred millions.

Lest there be an impression that Mr. Carnegie in his generosity gave only enduring monuments of practical educational value, attention must be drawn to the thousands who receive annually from vast pension funds in both the United States and Great Britain. These constitute an army in themselves, one little known but wonderfully appreciative. One fund created by Mr. Carnegie is world-wide in its operation, the Hero Fund, a reward to those displaying courage in emergencies, whether on sea or land. A fund for this purpose exists in Pittsburgh, embracing the United States and Canada, and others in Great Britain, France, Germany, Italy, Sweden, Norway, Switzerland, Holland and Belgium. Awards are made annually of medals, cash, or educational privileges.

Mr. Carnegie married, in 1887, Louise Whitefield, who was in closest accord with him in all his plans for disposing of his fortune. Their only child, Margaret, was born in 1897. Their time was divided between a magnificent estate in Scotland, Skibo Castle, and a palatial residence on Fifth avenue, New York. Honors were showered upon Mr. Carnegie; universities conferred honorary degrees; France created him a Knight of the Legion of Honor; the Sorbonne gave him its medal; St. Andrew's, Aberdeen, and Glasgow universities elected him Lord Rector. He gained literary distinction, and was noted as a platform speaker. In 1886 he published "Triumphant Democracy," which has run through many editions. This followed his "Around the World" (1884); in 1906 appeared his "Gospel of Wealth," followed by "The Empire of Business;" "Life of Watt," in 1906; and "Problems of To-day," in 1909. He always supported the principles of the Republican party, although he strongly opposed the annexation of the Philippines following the Spanish War. He had the utmost faith in the future of the English-speaking race, in the ultimate abolition of war, and the progress of education along non-sectarian lines. He was as "canny a Scot" as e'er drew breath, as shrewd a Yankee as the sun of New England e'er shone upon, as big-hearted and happy as an Irishman, as stubborn as an Englishman, yet withal, a man, that, take him all in all, stands alone in the magnitude of his achievements. Wallace Bruce, Scotch-American poet, after a visit to the Carnegie Institute, in 1896, wrote the following poem, presenting a copy to Mr. Carnegie and one to the library:

You have wrought a noble poem
In your home of early years,
Aye, a proud, prophetic poem
In the land of peerless peers.
Cold the lines that fall and falter
Since the bard of Colla passed,
Fruitless offerings on life's altar,
But your work abideth fast.

Oh! to wake the coming ages,
Idle wish of many a seer,
Dead the tomb of weary sages,
But your notes shall linger clear.
Hark, beneath yon swelling arches,
Knowledge, skill and hope enchime,
As the long procession marches
To the grandest song of time.

Andrew Carnegie died at Shadow Brook, Lenox, Mass., Aug. 11, 1919.

WILLIAM THAW, capitalist, philanthropist, was born in Pittsburgh, Pa., Oct. 12, 1818, died in Paris, France, Aug. 17, 1889, son of John and Eliza (Thomas) Thaw. His great-grandfather, John Thaw, was born in Philadelphia in 1710. The latter's son, Benjamin Thaw, born in 1753, married Hannah Engle, a member of an old Quaker family. Their son, John Thaw, father of William Thaw, removed to Pittsburgh, Pa., in 1804, having been sent there by the United States Bank of Philadelphia to establish a branch of that institution. This was the first bank

in Pittsburgh, and Mr. Thaw was associated with it for the remainder of his business life.

William Thaw attended school in his native town, and finished his education at the Western University of Pennsylvania. At the age of sixteen he became a clerk in his father's bank, but early in the following year he entered the house of McKee, Clark & Company, forwarding and commission merchants, in a similar capacity. After a short time his independence asserted itself. He married, in 1841, and within a year he and his brother-in-law had established themselves as transporters, and owners of steam and canal boats. This connection, which continued until 1855, laid the foundation of his fortune. The canal system was then the great channel of communication between the East and the West. With the completion of the Philadelphia and Columbia road and the Allegheny Portage road in 1834 a direct line of communication between Philadelphia and Pittsburgh was established, which gave a wonderful impetus to the latter city. Transportation naturally became one of the most important lines of enterprise. Competition was rife, but Clarke & Thaw controlled the Pennsylvania & Ohio line and held their own. Their business developed until it comprised canal, portage railroad and steamboat lines, extending from Philadelphia to New Orleans.

The advent of the steam railway presented a new problem to the sagacity of Mr. Thaw, for it was destined soon to supersede the prevailing method of transportation. The original Pennsylvania railroad was completed in February, 1854. By the subsequent purchase of the Philadelphia & Columbia road from the State, its line was made continuous from Philadelphia to Pittsburgh. With characteristic promptness Mr. Thaw set himself to the task of disposing, with the least possible loss, of his firm's properties, including the canal equipment and their large interests in the great packets, which formed the daily line between Pittsburgh and Cincinnati. In 1856 he rejoined his former partner, who had in the meantime undertaken the conduct of the freight traffic of the Pennsylvania railroad West of Pittsburgh. New as the railroad was at that time, no real system of freight transportation had as yet been evolved. No through bills of lading, through cars or exchange between the different lines was known, each road working independently from the others. The transformation of this chaotic condition, entailing tremendous expense to shippers, into the splendid cheap freight system of the present day, had no greater instrumentality than the genius of Mr. Thaw. In 1864 he first devised a system of through transportation over different lines, known as the Star Union Line, of which he had charge until 1873. Not only was he the originator of the system, though he modestly refused to take all the credit, but to the initiative, originality and energy of the true pioneer, which he brought to the task, its success must be ascribed.

He was also associated with the founding of the Pennsylvania Company, which was chartered in 1870 to manage in the interest of the Pennsylvania Railroad Company the various ramifications of that company west of Pittsburgh. Its control extends over the Pittsburgh, Ft. Wayne & Chicago, the Erie & Pittsburgh, the Cleveland & Pittsburgh

and its branches, the Pittsburgh, Cincinnati & St. Louis, the Chicago, Little Miami, the St. Louis, Vandalia & Terre Haute, the Grand Rapids & Indiana, and many others. Mr. Thaw became second vice-president of this corporation, besides holding the corresponding post in the Pittsburgh, Cincinnati & St. Louis railroad, and a directorship in the Pennsylvania Railroad Company. After 1873 he turned most of his attention from the transportation department to the internal and financial affairs of the company. He remained closely associated with the company to the end of his career, and the power of his intellect was felt as an advisor to three successive presidents—Thompson, Scott and Roberts—on all matters of projected enlargements, and the policy of that great system. But Mr. Thaw's activity did not end there; in connection with H. H. Houston, of Philadelphia, for the American end, and with Messrs. Van der Becke & Marsilly, of Antwerp, for the European, he established the first international steamship line between the United States and Europe—The Red Star Line, to which was later added the American Line.

Mentally Mr. Thaw was among the foremost men of his State, gifted with a high order of intelligence, strengthened by liberal culture and years of study and observation. His broad intellect was not devoted to business alone. Posterity owes a great debt to him as a philanthropist and a liberal patron of art, science and education. Endowed with great wealth, he realized its powers for good and his benefactions covering the period of an average lifetime recognized no distinction of race or religion.

When in 1881 Professor Samuel P. Langley organized an expedition to the top of Mount Whitney in California for the purpose of continuing certain observations upon solar radiation, the expense was borne by Mr. Thaw jointly with the United States Signal Service. Professor Langley often declared his indebtedness to the friendship and support of this generous patron of science, as of every good work. The Allegheny Observatory, one of the finest in the country, is largely indebted to his liberality for the financial means to prosecute its work. Dr. John A. Brashear, the noted scientist, records an incident which vividly illustrates one side of his nature:

I shall never forget the last afternoon I spent an hour with him. It was the afternoon of the evening of his leaving the city for his trip abroad. He had sent for me to say good-bye. I was to stay but five minutes—but he began telling me of the researches of Dr. Janssen, President of the French Academy of Sciences, which had been of deep interest to both of us, because it was a continuation of Professor Langley's special work on the selective absorption of the earth's atmosphere. Dr. Janssen's studies had been made with the spectroscope on the powerful electric light located upon the Eiffel Tower, and he had demonstrated that our evidence of oxygen in the sun was all negative, notwithstanding the opposite result obtained by Dr. Henry Draper. I shall never forget how he began to picture our sun, burning with such intense heat as to be capable of warming more than two billions of worlds like our own, and yet no evidence of oxygen—an anomalous condition contrary to all our ideas of combustion, yet one that he traced back to the origin of suns in nebulous state. Such was his conversation for the better part of an hour—the last I was ever permitted to enjoy with him on earth. The five minutes had grown apace, and yet I could have wished it had been hours instead of minutes. * * * The writer can safely say that few men in this country have contributed more, during their lifetime, for the advancement of human knowledge than William Thaw, not only in a monetary way, but by words of encouragement, the best advice and counsel, making it possible to carry on original research, and assisting in many ways institutions of learning that

would surely have failed had it not been for his helping hand and his valuable advice and encouragement. No one knows this better than the writer, for when struggling to bring instruments of precision up to the highest status, this great-hearted man came unsolicited, and appreciating the circumstances as not one man in ten thousand would, he lent a helping hand for the benefit of science.

Mr. Thaw was a member of the Presbyterian church, and in view of his close connection with it, a quotation from the "Presbyterian Banner" at the time of death is appropriate:

Mr. Thaw was a man of muscular frame, quick in movement and capable of great endurance. In intellect he was almost without superior. His countenance indicated the power of thought and the strength of will with which he was endowed. Notwithstanding his many and pressing business engagements, he was an untiring reader. * * * His memory of persons and things was something amazing. * * * The benefits of early education and habits are well illustrated in his successful career. * * * When he made anything the subject of investigation he thought most intensely, not permitting any interruption, and then decided quickly.

An important characteristic of Mr. Thaw was his judgment of men, his ability to detect sham and pretense. His reasonings, based upon convictions of right and duty, were never degraded to the service of expediency or mendacity. Impetuous and persistent, he was also prudent. Broad in his views, buoyant in disposition, honest, sincere, and self-reliant, strictly upright in all his transactions, he worthily won and held a high position in the esteem and affection of all who knew him.

In earliest manhood Mr. Thaw united with the Third Presbyterian Church, under the pastorate of Rev. David Riddle, the first pastor of that church. After the first building was destroyed by fire, in 1863, under the supervision and largely through the generosity of Mr. Thaw, there was erected the splendid building on Sixth avenue, since razed together with the cathedral and other churches, in order to provide for expansion of the downtown business district. The life of that organization is continued in a third edifice, more beautiful than its predecessor, with a church life more vigorous than at any time in its existence. Thus the life of William Thaw is continued in church, business, science and all other interests that touch the life of humanity.

JOSEPH M. FLANNERY—Great boons to humanity come nearly always as the result of the force and genius of one man. With the development of three branches of industry of primary and regnant importance, the name of Joseph M. Flannery is bound with closest ties—the production of vanadium, radium, and uranium. In a life that was cut short in its prime, and with only a comparatively small share of his career devoted to these fields, he achieved results of stupendous importance and far-reaching influence revolutionizing an industry and giving to the world agents of incalculable benefit. In the shock of the loss of such a man, poignant sorrow at his taking away is uppermost in the hearts of those who knew and loved him. But with resignation to the will of the Shaper of our destinies comes an overwhelming gratitude that he was spared to accomplish and to give so much of his rich endowment of talent, and this emotion is ascendant in the feelings of his associates. The following paragraphs contain in outline the main phases of Mr. Flannery's career, and, attempting justice to his standing among scientific and industrial men in his community, their intent is to perpetuate



Joseph M. Hamner

and do honor to the memory of a man whose contributions to his time were of enduringly permanent value.

Mr. Flannery was a descendant of families ancient in Ireland, and was born July 18, 1867, son of Michael Joseph and Ellen (Kirwan) Flannery. He was educated in the Christian Brothers' Parochial School and Holy Ghost College, Duquesne University. He began business life in the undertaking establishment founded in 1874 by his brother, James J. Flannery. Until 1904 he continued in that connection, then sold his interest, and in that year obtained control of the patents on a bolt specially designed as a stay bolt for locomotives. This was the Tate flexible bolt for locomotive fire boxes, and the Flannery Bolt Company was organized to manufacture and market this product, now a recognized need in the building of locomotives. This concern he built up to a high level of efficiency and directed it in its constant prosperity.

In the course of his activity in the raw metals market, Mr. Flannery met an old Peruvian, from whom he learned of the existence in Peru of vanadium and of some of its remarkable qualities, and he was fired with the desire to give to the steel industry an alloy of such great promise. He at once took steps to secure control of the deposit, making the journey to Peru, and, after some rather spectacular negotiations, gained control of the Minas Ragra deposit, now recognized and noted as the largest and richest source of vanadium in the world. A plant was then erected at Bridgeville, Pa., a famous alloy expert brought from England, and an extensive series of experiments inaugurated. These researches proved that the use of vanadium as an alloy increased the tensile strength of steel, gave it greater elasticity, and gave it more powerful resistance to strains of all kinds, without increasing its size. These favorable results left as his only problem its introduction into general use. While his brother, James J. Flannery, took charge of the financial and mining interests, Mr. Flannery planned and conducted one of the most intensive and successful campaigns of education and salesmanship the steel industry has witnessed. At that time there were three great projects, offering widely different problems, in which steel men and the country in general were deeply interested, the construction of the Panama canal, the Quebec bridge, and Henry Ford's manufacture of low-priced automobiles. He felt that these were the strategic points for his attack, and the manner of his execution of his plans is an index to the character of the man, forceful, straightforward, and uncompromising. He went to the Panama canal, was presented to the technical staff of General Goethals, and during one day conferred with each of them whose needs were large quantities of special steels. To what good effect he presented his proposition is shown by the fact that more than a year later, and only after the most exhaustive tests of Mr. Flannery's figures and facts, General Goethals placed orders for vanadium steel for the hinges for the gigantic lock gates and for other important parts of the lock gates that aggregated nearly 5,000 tons of vanadium steel. The engineering world was astonished, and inquiry and study concerning vanadium steel began. That order made the American Vanadium Company a power in the steel industry.

The engineers of the Quebec bridge, on the contrary, would not even consider vanadium steel. It would be inaccurate to state that the first Quebec bridge collapsed because vanadium steel was omitted from its construction, but it is germane to the subject to recall that the steel men who failed to appreciate the merits of that steel also failed to note the faults in their design of the bridge.

Other methods were used by Mr. Flannery in introducing his product to Mr. Ford. He proved that by the use of vanadium steel he could reduce the weight of his car by about twelve hundred pounds, and as a supplement to many technical proofs, Mr. Flannery took some Ford cars made of his steel to a high cliff, and, in the presence of Mr. Ford's staff, had them literally thrown over the precipice. The result was a complete vindication of his predictions, for the steel, bending and twisting under the terrific impact, could not be broken. The Ford Company adopted his steel and gave wide publicity to the fact that its automobile was a vanadium steel car. To-day practically all the leading automobiles of the world use vanadium steel. It has come to be a necessity in industry and science, and those in a position to know the facts yield to Mr. Flannery the fullest praise and credit for his pioneer work in its introduction.

Radium production is another field of endeavor with which his name is conspicuously related. He was led into research in this direction through the affliction of his sister with cancer, when he was assured, in 1909, by European specialists that radium alone might have helped her. It was impossible, however, to obtain sufficient radium in Europe, and Mr. Flannery determined to establish its manufacture in the United States. He had entered absolutely virgin territory. There were few authorities on radium, and their scant store of knowledge was applicable to work on high grade ores, ores containing a high percentage of uranium. The ores with which he began and continued his work were of such low grade that from three to five hundred tons had to be treated to yield one gram of radium, and upon him devolved the discovery of a method of accomplishing this result.

Mr. Flannery withdrew from his vanadium and other interests and devoted himself with unremitting industry to his self-imposed task. His friends gave him small encouragement; his bankers warned him that he was jeopardizing his fortune. But with a small staff of learned assistants he held to his aim, and through month after month of patient effort, at great expense, sought to perfect the process that would make available the amazingly potent product so sorely needed in certain lines. Finally, in 1913, he and his assistants obtained the first radium made in this country and the Western Hemisphere in the laboratories of the Standard Chemical Company at Forbes and Meyran avenues, Pittsburgh. From the first the yearly production of radium by the Standard Chemical Company has steadily increased. Of Mr. Flannery's subsequent radium activity a scientific man, competent to judge, has written:

In the midst of industries whose total output is measured in thousands or millions of tons, an industry whose total output in nearly five years is about one ounce is likely to seem small, yet this production of radium by the Standard Chemical Company, of

Pittsburgh, is the most notable in the world. This is more than a third of the estimated stock of the world's most high purity radium, and to Joseph M. Flannery, more than to any other single man, belongs the credit and honor of starting and so establishing the manufacture of radium from low grade ores that the medical and scientific professions may now count upon an ever increasing supply.

Maximum production was delayed for a time by government intervention at the instigation of the United States Bureau of Mines on the grounds that the control of the new industry should be vested in the national government. After fully demonstrating his incontestable right to manufacture as a private corporation, Mr. Flannery continued the production of radium, and until the time of his death the total amount of production was about fifty-five grams, fourteen grams being produced in the last year. During the World War the Standard Chemical Company, coöperating with the Council of National Defence, supplied the Allied Powers with all the radium required, at the same time maintaining the supply necessary for the United States.

The use of uranium as an alloy for steel was a project that occupied Mr. Flannery during the closing years of his life, and he had made preparations to conduct some experiments along this line when the demands of the great war came in full force, and his patriotic support of the government held him close to more beaten paths. About a year before his death he returned to this subject and proved that uranium has a well-deserved place as an alloy for improving cutting tool steel, and to his efforts is due its present extensive use in that field.

Another sphere of industry to which he contributed through his genius for organization and resourcefulness in introducing industrial innovations was the production of gasoline. Gasoline has been made for years by a slow and inefficient process. Dr. Rosanoff, then of the technical staff of the Mellon Institute, of Pittsburgh, brought to him what seemed a new and practical method for greatly increasing the quantity of gasoline obtainable from crude oil with a marked reduction in the time and cost of making this important product. Mr. Flannery agreed to finance his experiments, and in this development he gave generously of his time and means. When the United States entered the World War the process had just been perfected and Mr. Flannery, as president of the Rosanoff Process Company, immediately offered the method to the Fuel Administrator. The reports of the United States Bureau of Mines and the studies of the gasoline expert of the Fuel Administrator were all favorable, but the signing of the armistice, and the relinquishment by the government of the control over gasoline, made it impossible for the government to take further steps in having the process applied commercially. With practical oil men interested in the process, Mr. Flannery went to New York a few weeks before his death for a conference with some financial leaders about the new method. His physicians advised him against the effort, for his vitality was depleted by the constant strain of weighty affairs, and urged him to go to California for a much-needed rest. This he promised to do as soon as he returned from New York. That last effort broke his health and reserve strength entirely, and he was never

able to leave his room after his return from New York, his death occurring Feb. 18, 1920, before he learned the tangible results of his last work.

The absorbing chapters of business and industry record no career in which a man spent himself more prodigally in his work, and followed more devotedly an idea that he felt contained the means of usefulness and benefit to his fellows. Those who knew Joseph M. Flannery well were privileged to know a rare personality. One who knew him so gave this summary of his character :

To his immediate business staff and his assistants his personality was a power and an influence. Self-educated, he had so studied that he talked with a knowledge and a clarity of view that was exceptional. In his chosen fields of business he mastered all the details of his subject so that he could and did hold the interest of technical and professional men. When he reached the limit of his knowledge he stopped. He never pretended. He had a passion for facts and for analyzing them. For untruth, personal or scientific, he was intolerant with all the power of his nature. In his friendships he was generous to a fault. * * * While he tied men to him by his sympathy and his thought for their success, his constant personal modesty, his driving power in the accomplishment of the work of the moment and the quickness and generosity with which he showed his appreciation for all that was done either for him or for themselves, are the factors that made Joseph M. Flannery's friendship an inspiration and his death a personal loss to all that knew and worked with him.

Mr. Flannery, deeply immersed as he always was in industrial developments of prime importance, found time for active sympathy with the best influences in the life of Pittsburgh. He was a member of the Duquesne and Union clubs, and the Pittsburgh Athletic Association, and his social relations with his fellowmen were cordial, hearty, and sincere.

Joseph M. Flannery married, April 9, 1901, Mollie Gearing, daughter of John and Mary (Roche) Gearing, of Pittsburgh, Pa., both now deceased. Children: Joseph M., Jr., Helen Kirwan, John Gearing, and Raymond Girard.

His death brought forth expressions of sorrow, deep and sincere, in widespread circles in his city, and editorial comment in the leading journals joined to mark the passing of a citizen who had measured up to the standards of real greatness. This record closes with the quotation of one of them :

In the death of Joseph M. Flannery not only Pittsburgh, but the world, loses a great pioneer and a good servant. In this may be found the secret of his triumphant rise against adversity—that he labored for no mere selfish purpose, but for all mankind. His was the restless, striving, daring spirit of the type that has written large the name of Pittsburgh in the records of achievement. And in distinctive degree did he possess that purity of motive that redoubles strength. Whether in vanadium or in radium, Mr. Flannery was inspired by no mere casual hope for gain. In the one case it was to improve a product, in another to minister to a stricken sister's need that set him forth upon his quest.

Riches came to him. But they were riches blest as the reward for direct benefit to his fellow men. They were riches that America is ever eager to pour at the feet of him who will serve her. To-day as yesterday, the explorer of the unknown, in the arts or sciences, or in whatever field of activity, is assured of the completest recompense. The gates of opportunity are ever open to the man with eyes to see and the courage to enter.

Imagination, a flaming spirit, a love of his family and his fellow men—these were the outstanding qualities of Joseph M. Flannery. His life points the way to triumph to every man—that he seek ways to serve and falter not.

CHRISTOPHER L. MAGEE was born in Pittsburgh, Pa., April 14, 1848 (Good Friday), and died in 1901. He received his early educational training at the public schools in that city. He then attended the private school of Professor Barry, and from there entered the Western University. His will and application in accomplishing a purpose is illustrated in the incident of his school life when, preparing to enter high school two years in age and one in grade behind his eldest brother, he contracted with his tutor for extra hours of study, and the two pupils came out of the school in the same class and with the same honors, and entered the high school together.

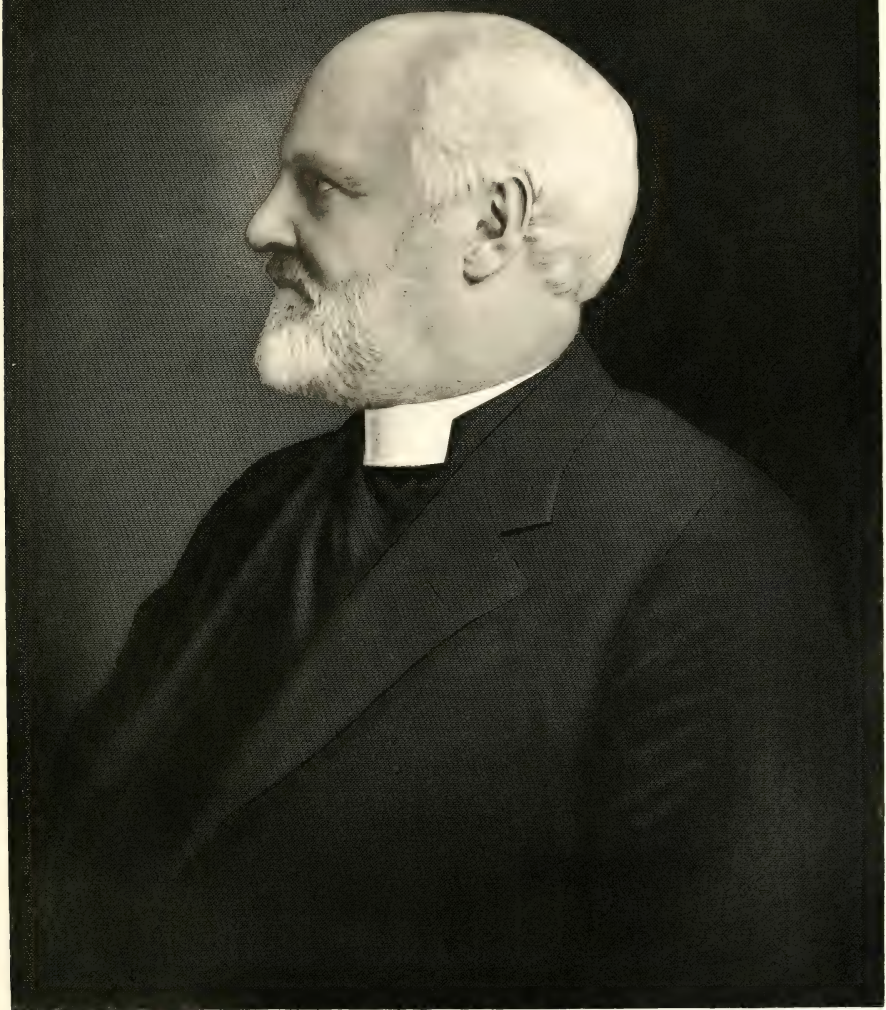
His father died when he was fifteen years old, leaving his mother with three children younger than himself. He therefore left the university and went to work. He secured a clerkship in the comptroller's office, and devoted his earnings to help to support the family. From his mother he received his best training, and she was for the next twenty-five years his most trusted and beloved adviser. In 1869 he was made cashier of the city treasury, and in 1871, at the age of twenty-three, was elected treasurer of the city, receiving two thousand six hundred more votes than the candidate for mayor of the city on the same ticket. He was again elected to the office in 1874. He was for ten years fire commissioner, and for part of the time president of the commission. As a ruling power in the municipal affairs of Pittsburgh, he succeeded in reducing the city debt from \$15,000,000 to \$8,000,000. He was twice secretary of the Republican State Committee, and was a delegate in every Republican State Convention from 1876, for a number of years. In 1880 he was one of the historic 306 supporters of General Grant at the Republican National Convention of 1880. In the National Convention of 1892 he was one of the leaders of the Harrison forces that finally stupified the Blaine supporters by an original device of political strategy. His political methods were marked by extreme generosity to the defeated, and his political enemy, if defeated, was sure to receive the first consolation, and help if needs be, from Chris Magee. His action in this respect has been characterized by a co-worker in the political field as follows: "Magee and I have a battle royal with some fellow and get him down. I want to feel sure he isn't going to get up and come at us again, so I spike him to the floor and go to bed contented. Then after I am sleeping Magee comes back and forgives him and pulls the nails. That's Chris's way." Mr. Magee made considerable money in the early development of natural gas, and used his gains in investments in real estate, then rising in value by reason of the gas development and its use as fuel in Pittsburgh. In 1884 he bought the "Times" newspaper with 1,500 circulation, which he built up to a circulation of over 60,000, and made it one of the most valuable newspaper properties in Western Pennsylvania. He erected, for its use, an eight-story office building, and personally conducted its business affairs, besides directing its policy and revising every editorial before it was printed. He was the organizer, and was the president of the Duquesne Traction Company, controlling thirty-two miles of street railway. He was also president of the Transverse Railway Company, and

an active director of the Citizens' Traction Company, the Allegheny Traction Company, the Pittsburgh, Allegheny & Manchester Traction Company, the Pittsburgh, Allegheny & Manchester Passenger Railway Company, the Freehold Bank, Pittsburgh Trust Company, the Western Insurance Company, and the Allegheny County Electric Light Company, to each of which he gave personal attention. He had a palatial home with spacious grounds, and with his wife, who was Eleanor L. Gillespie, the daughter of a well-known Pittsburgh merchant, he entertained charmingly and frequently. His charities were large and continuous. The people of Pittsburgh acknowledged him as their first citizen, and traced through his energy and forethought much of their municipal and personal success.

RT. REV. CORTLANDT WHITEHEAD—Four decades have elapsed since Bishop Whitehead was consecrated in his high episcopal office in the diocese of Pittsburgh of the Protestant Episcopal church. Forty years of active service comprise a splendidly worthy record in any of the accepted fields of human endeavor, but when such a period is spent in the work of the church, in the uplift of one's fellowmen to the high estate to which they are heir, then does the record of such service become the common property, the concern of all who are directly or indirectly affected by his activity. The history of the Protestant Episcopal church would not be the remarkable series of documents that it is, from its origin in the Church of England to the present, had it not, under Divine guidance and high-minded, pure-souled human leadership, constantly satisfied a spiritual need, had it not unflinching met the challenge of every period of human history. Bishop Whitehead, numbered among these leaders, with all of his energy and all of his rich talents, has given the long years of his life under the spotless banner of the Prince of Peace. The impress of his influence and service is clearly defined upon his time.

Son of William Adey and Margaret E. (Parker) Whitehead, Cortlandt Whitehead was born in New York City, Oct. 30, 1842. After studying under private tutors, he prepared for college at Phillips Academy, Andover, Mass., whence he was graduated in 1859, then entered Yale University. He received the degree of Bachelor of Arts in 1863, and in 1866 was awarded the Master's degree in Arts. In the same year he began theological studies in the Philadelphia Divinity School, and upon the completion of his course, in 1867, was ordained deacon by Bishop Odenheimer, in 1868 receiving priest's orders from Bishop Randall, of Colorado.

The years from 1867 to 1870 were spent as a missionary in Colorado, after which he was called to the rectorship of the Church of the Nativity at South Bethlehem, Pa. The eleven years of his pastorate were filled with devoted and fruitful service, and while laboring in this field he was elected bishop of Pittsburgh. His consecration in this office took place in 1882, with Bishops Stevens, Bedell, M. A. De W. Howe, Scarborough, Peterkin and Hellmuth, the last named of Huron, Canada, officiating. As head of the diocese of Pittsburgh, Bishop Whitehead gave himself



*Cortland at Whitehead.
Bishop of Pittsburgh*

with ardor and enthusiasm to his work, its results becoming apparent in increased prosperity in temporal affairs, and in a heightened spirituality and quickened impulse in all departments of denominational work. The growth of the church in the large territory that comprised the diocese of Pittsburgh made advisable its division, and in consequence the counties of Pennsylvania west of the Allegheny mountains, formerly all his charge, were in 1910 divided into two parts, the lower half called the diocese of Pittsburgh, and the upper half the diocese of Erie. The diocese of Pittsburgh has a membership of 45,000, with 15,000 communicants, and an average confirmation list of more than 1,000 candidates. In addition to his duties in the bishopric, Bishop Whitehead has been honored by his denomination by appointments to commissions composed of bishops, clergymen and laymen for consideration of weighty matters. Among these have been commissions for the revision of the scriptures, for the revision of the prayer book, and for the revision of the hymnal, and a committee on the care of the American churches in Europe, while he was also appointed president of a large commission to raise \$5,000,000 as a pension fund for aged, infirm, and disabled clergymen, their widows and minor children, which was, however, merged into the clergy pension fund now in successful operation. Bishop Whitehead's contributions to church literature include a catechism on the church year, various sermons, addresses and missionary reports and papers, and "Coxe's Thoughts on the Services Revised." In 1880 the degree of Doctor of Divinity was conferred upon him by Union College, in 1887 by Hobart College, in 1890 he received from St. Stephen's College the degree of Doctor of Sacred Theology, and from the University of Pittsburgh in 1912 the degree of Doctor of Laws. In the pulpit, in executive session of church heads, and in the contact with laity that is an important part of his work, Bishop Whitehead has filled his high office to the glory of the great Head of the church and with personal distinction. Guided in his daily path by lofty ideals, blessed with the common touch for the greatest furtherance of these aims, Bishop Whitehead has carried his work into all fields and has left his mark upon all kinds and conditions of men. Charity, tolerance and broadmindedness have marked all of his relations with his fellows, and with unflagging zeal he has striven for the advancement of his great cause.

He is (1921) the oldest trustee of the University of Pittsburgh, trustee of Magee Hospital, vice-president of Allegheny County Milk and Ice Association, visitor to St. Margaret's Memorial Hospital, and president of the board of trustees of the Episcopal Church Home. He has served as chaplain of the Masonic Grand Lodge of Pennsylvania and is a thirty-third degree Mason. He has made numerous visits abroad on missions connected with the church, and has attended three Lambeth conferences under the presidency of the Archbishop of Canterbury.

Bishop Whitehead married, July 29, 1868, Charlotte B. King, daughter of John C. and Mary (Luke) King, of Roxbury, Mass. This union has been most happy and Mrs. Whitehead has, with fine tact and graciousness, largely aided Bishop Whitehead in his work. Their tastes

are closely similar, and together they have visited the historic scenes of the old world and places of beauty and interest in their own land, while their home in the East End reflects cultured refinement. Here Bishop Whitehead has found a haven of rest from strenuous labors, and here he loves to receive his friends from all walks of life. Truly a patriarch of the church, Bishop Whitehead occupies a place that is unrivaled in the hearts of his fellowmen, among whom he has conducted a work that has been richly blessed.

HON. JOSEPH M. SWEARINGEN, presiding judge of the Court of Common Pleas No. 4, of Allegheny county, Pa., is one of those men who bringing to the office much, give to it, as the years go on, increasingly more. Judge Swearingen is a representative of a family which, tracing its origin from the Colonial period of our history, has aided in the evolution of our Revolutionary era and our national life.

Gerrett Van Sweringen, founder of the American branch of the family, came from Holland in the year 1657, to Delaware, and was one of the officials in the Dutch settlement established at what is now the city of New Castle. After the English captured New Amsterdam (now New York), they drove the Dutch away from their settlement in Delaware. Gerrett Van Sweringen removed into the province of Maryland, where he was naturalized as a British subject, by Act of the General Assembly of the province of Maryland, passed April 14, 1669. His great-grandson, Samuel Swearingen, who was born in the year 1740, emigrated from Rock Creek, Montgomery county, Md., about 1783, and settled in what is now Hanover township, Beaver county, Pa. Among his children was a son, John Van, who left a large family, his youngest son being William Van.

Joseph M. Swearingen, eldest son of William Van and Nancy I. (Shannon) Swearingen, was born Sept. 5, 1854, upon the homestead of his great-grandfather, Samuel Swearingen, above mentioned. Joseph M. Swearingen received his preparatory education in the local common schools and at Frankfort Springs Academy, and then entered Washington and Jefferson College, graduating with the class of 1879. He studied law with the Hon. Boyd Crumrine, at Washington, Pa., and there, on June 13, 1881, was admitted to the practice of his profession. He was admitted to the bar of Allegheny county on July 2, 1881.

The legal requirements of Mr. Swearingen, as he then was, and the reputation which he had made for himself in the conduct of many important cases, led to his elevation to the bench. The legal business of Allegheny county required another court, and in response to the demand, the Legislature created Common Pleas Court No. 4. On April 4, 1907, Governor Stuart appointed, as the president of that court and one of the three judges, Joseph M. Swearingen, of Pittsburgh. Mr. Swearingen was indorsed by the Allegheny county bar for the position. At the general election in November of the same year, Judge Swearingen was chosen to serve for a term of ten years. When the Duquesne University included the Law School, Judge Swearingen was appointed Dean of this school, which position he has held to the present time (1921).



Jos. M. Inearinger

To the requirements of his high office, Judge Swearingen brought not only profound legal learning, great knowledge of men and an exceptionally judicial mind, but a broad and general culture and a deep human sympathy hardly less essential to the perfect fulfilment of his duties. Of all these attributes his countenance is expressive, as well as of the genial nature and companionable disposition which have drawn around him a large circle of friends both within and without the pale of his profession.

Judge Swearingen married Sarah Wherry, daughter of Archibald Wherry, of Pittsburgh, and they are the parents of two children: William Van, who is a member of the Allegheny county bar; and Nancy Isabel, now the wife of Dr. Walter F. Donaldson, of Pittsburgh.

On the bench of a county whose judges have ever stood second to none in the United States, Judge Swearingen has presided with a singleness of devotion to the highest interests, which imparts an additional lustre to the judiciary of the Keystone State.

WILLIAM JACOB HOLLAND, D. D., LL. D.—At Bethany, a Moravian mission-station on the island of Jamaica, West Indies, Dr. William Jacob Holland was born, Aug. 16, 1848. His father, the Rev. Francis Raymond Holland, was a native of North Carolina, a descendant of John Holland, one of the early settlers of Salem, in that State. On his father's side Dr. Holland traces his descent from the well-known English family to which belonged Philemon Holland, the translator of Pliny and other classic authors, and William Holland, the friend of Whitefield and Wesley. His mother was the only child of Jacob and Eliza (Horsfield) Wolle, through whom Dr. Holland traces his descent from some of the very earliest settlers of the cities of New York and Philadelphia. At the time of his birth his parents were temporarily sojourning in Jamaica, his father being a missionary of the Moravian church. He was brought in his infancy to the United States, and resided with his parents, first in Ohio, and then in North Carolina, until 1863, when in the fall of that year the family removed to Bethlehem, Pa.

Dr. Holland received his early education in the schools of the Moravian church, graduating from the Moravian College at Bethlehem in 1867. Subsequently, he entered Amherst College, where he graduated, taking the degree of Bachelor of Arts in 1869, and in 1872 taking the degree of Master of Arts in course. Immediately after graduating, he became the headmaster of the Amherst High School, succeeding in this position Charles H. Parkhurst, since known as one of the most eminent clergymen of New York City. Leaving Amherst, Dr. Holland accepted the headmastership of the high school at Westboro, Mass., where he taught from 1870 until 1871, meanwhile studying medicine under a preceptor. Abandoning the idea of entering the medical profession, in the fall of 1871 he entered Princeton Theological Seminary, where he completed the regular course of study in the spring of 1874. In 1872 he had been ordained as a clergyman of the Moravian church, but in 1874 he was transferred to the ministry of the Presbyterian church, and in April of that year was installed as the pastor of the Bellefield

Presbyterian Church in the city of Pittsburgh. For ten or more years he was the clerk of the Presbytery, of Pittsburgh. His pastorate continued until the spring of 1891, when he resigned his pulpit to accept the chancellorship of the Western University of Pennsylvania (now the University of Pittsburgh). Under the inspiring leadership of Dr. Holland, the university grew and prospered, until it held in point of numbers the second place among the institutions of learning in Pennsylvania. At the time he became Chancellor, the only departments were the College, the School of Civil and Mechanical Engineering, and the Allegheny Observatory. Under his administration, departments of instruction in electrical and mining engineering, medicine, law, dentistry, and pharmacy were added, and the number of students taking courses was multiplied more than eightfold. Dr. Holland remained at the head of the university until 1901, when he resigned his position in order to devote his entire time to the affairs of the Carnegie Museum, with which he had been connected since its foundation in 1897. He still holds the position of director of this museum, which has grown to be recognized as one of the foremost institutions of its kind.

In early life Dr. Holland was devoted to the study of the languages and comparative philology. He is known as an accomplished linguist. Besides being familiar with the Latin and Greek languages, which he taught for several years after graduation from college, he early devoted himself to the study of the Semitic languages and the modern languages of Europe. He took the Carter prize for the best knowledge of Hebrew on entering Princeton Seminary, and spent much time in the study of Chaldee and Arabic, the latter as a private pupil of the late Professor William H. Green, of Princeton. In Amherst he had devoted himself to the study of Japanese, having as his pupil in Greek the first Japanese educated in America, the late Joseph Neesima, the founder of the Doshisha, of Christian University, of Kyoto, who, in return for the instruction he received in Greek, imparted to his teacher a knowledge of Japanese. The modern languages have been his constant study for many years, and he has a reading knowledge of most of them, and has made public addresses before learned bodies in Berlin, Vienna, Paris and Madrid, employing the language of the countries where he happened to be.

While a devoted student of languages throughout his life, Dr. Holland has been no less devoted to the natural sciences, and to art. His father was interested in conchology, his mother's father was an accomplished amateur botanist, the friend of Darlington, Mead, Shortt, Torrey, Sprague, and Asa Gray, the leaders in botanical research in America. In early childhood he began to collect plants and animals, and study their ways. Soon after settling in Pittsburgh he seriously took up the study of entomology, and succeeded in amassing the largest collections of the insects of the world in private hands in North America (the collection is now deposited in the Carnegie Museum). With this collection before him he has written many papers, in which he has described hundreds of species new to science, especially from Tropical Africa and the

Orient. He is regarded to-day as one of the highest living authorities upon the lepidoptera (butterflies and moths), and his published papers upon this and other groups of insects number over one hundred titles. He is the author of "The Butterfly Book," "The Moth Book," and "The Butterfly Guide," published by Doubleday, Page & Company, the three most widely known and most popular works upon the lepidoptera of North America in existence. Some of the other important papers from his pen are: "The Lepidoptera of Celebes" (1889); "Descriptions of New Genera and Species of West African Lepidoptera" (1894); "A Preliminary Revision and Synonymic Catalogue of the Hesperidae of Africa and the Adjacent Islands" (1896); "The Lepidoptera of Buru" (1901); and "The Lepidoptera of the Congo" (1920). He has given assistance to Sir George F. Hampson in the preparation of his "Catalogue of the Moths" of the world, which is being published by the trustees of the British Museum, and has already reached the thirteenth volume, and has aided in the preparation of many other works by the loan of specimens and by furnishing descriptions and drawings.

In 1887 he was the naturalist of the United States Eclipse Expedition sent to Japan by the National Academy of Sciences and by the United States Navy Department, and in 1889 was appointed to the same position in connection with the United States Eclipse Expedition to West Africa.

Dr. Holland, however, has not confined himself to the study of entomology and recent animals. He is recognized to-day as one of the leading paleontologists of America. His work as Curator of Paleontology in the Carnegie Museum, in which he had the generous support of Andrew Carnegie, has resulted in the formation of one of the largest and most important collections of fossil fishes, reptiles, and mammals in the New World. One of the well-known specimens in this collection is the skeleton of the colossal dinosaur, *Diplodocus Carnegiei*, replicas of which have been installed by Dr. Holland as gifts from Mr. Carnegie in the British Museum, the National museums of Germany, France, Austria, Russia, Italy, Argentina, and Spain. Dr. Holland has written numerous and important papers upon the osteology of the extinct vertebrates, one of his latest works being a "Monograph upon the Osteology of the Chalicotheres," a strange extinct family of mammals, in the preparation of which he has associated with himself his assistant, Mr. O. A. Peterson; another being a "Monograph upon the Osteology of the Genus *Dolichorhinus*," an early Eocene mammal, ancestral perhaps to the rhinoceros of modern time. Dr. Holland has been editor since their commencement of the publications of the Carnegie Museum (thirteen volumes of the "Annals" and eight volumes of the "Memoirs"), and his scientific knowledge is reflected in this array of important works, the articles in which have all felt the touch of his revising hand.

Dr. Holland has also taken a deep interest in local history as well as in general literature. His contributions to the history of Western Pennsylvania have been numerous, and have appeared in various publications. He has been a contributor to various cyclopedias, the article upon

"Pittsburgh," in the "Encyclopedia Americana," and that upon "Museums of Science," in the last edition of the "Encyclopedia Britannica," being, among others, worthy of note. His latest book, "To the River Platte and Back," Putnam's (1913), is an account of his journey to South America in 1912, which has met with a most cordial reception from the reading public on both sides of the water.

Dr. Holland in his earlier years was a devoted disciple of Isaac Walton, and a keen sportsman and mountain-climber. In later years he has devoted himself more ardently to the easel, for which he has partially forsaken the rod and the gun. He has achieved for himself an enviable reputation as a painter, both in oil and water, and as an illustrator. His various books and scientific papers have all been in the main illustrated by his own hands. He formerly lectured upon the history of art, and the biography of Albrecht Dürer, published by the Cassells in their stately work, "Great Men and Famous Women," is from his pen.

During the years in which he was the head of the University in Pittsburgh, he lectured upon political economy and international law. For many years he was a director of the Chamber of Commerce of Pittsburgh, and frequently represented this body at the annual meetings of the National Board of Trade at Washington, being at the last session he attended, the chairman of the committee upon currency and banking. In September, 1905, he delivered before the International Congress of Commercial and Industrial Corporations held at Liege, Belgium, an address upon "An International System of Coinage," which was very well received, and has been translated into many European languages.

Dr. Holland is in certain circles best known as an educator. His years of service as the head of the oldest institution of learning in Western Pennsylvania and his interest in other kindred institutions have won him a recognized place among the educators of this country. He was the president of the Association of Colleges and Preparatory Schools of the Middle States and Maryland, and presided at the sessions of this body at Johns Hopkins University in 1894. He is the author of the Act of Legislature of Pennsylvania creating the College and University Council of the State, which is clothed with many of the functions of the Board of Regents of the University of New York. He is with one exception the longest in tenure of office of all the trustees of the University of Pittsburgh; since 1877 has been a trustee of the Western Theological Seminary; was long a trustee and chairman of the Executive Committee of the Pennsylvania College for Women; of Washington and Jefferson College; and of the Pittsburgh School of Design for Women. He was one of the founders and the first president of the Academy of Science and Art of Pittsburgh, and for a number of years has been the president of the Pittsburgh Society of the American Institute of Archaeology, and a Councillor of the Institute. He is a fellow of the American Institute of Social Sciences; a member of the Council of the Association for International Conciliation; and of the Simplified Spelling Board. He was active in founding the American Association of Museums, of which he has been the president, and is a leading member of the Society for

Tropical Research in America, affiliated with the National Research Council. In 1915 he was secretary of the Jury of Awards in Higher Education at the World's Fair in San Francisco.

His activities as a public-spirited citizen have been constant. When Pittsburgh held an unenviable record on account of the prevalence of typhoid fever, he was one of those who took an active part in the campaign to bring about relief. When at last it was resolved by the city to appoint a commission to consider ways and means to stay the plague, he was appointed a member of the Commission, and became chairman of the committee upon methods of procedure, and chairman of the committee upon water analyses, to which the experimental work of the commission was referred. He attended nearly every meeting of the commission (there were seventy), and at his own expense visited Europe to inspect all the filtration plants in operation, and also visited numerous American cities in company with other members of the commission. The final report was written by Dr. Holland, and published by the council of the city. The result was the establishment of a great modern filtration plant and the practical elimination of typhoid fever from the city of Pittsburgh. In speaking of this matter to the writer, the doctor said: "If I had done nothing else in my life than help to eliminate typhoid fever from the community, I should be happy."

Between Dr. Holland and Andrew Carnegie there was a close friendship for forty years. When the latter announced his gift of a great library to the city of Pittsburgh, the first trustee named in the gift was Dr. Holland, and when Mr. Carnegie created the Carnegie Institute the first name suggested by him as that of a trustee was that of his old friend, the Chancellor of the University. Dr. Holland is one of the members of the Carnegie Hero Fund Commission, and since its inception has been its vice-president, and chairman of the executive committee of the board.

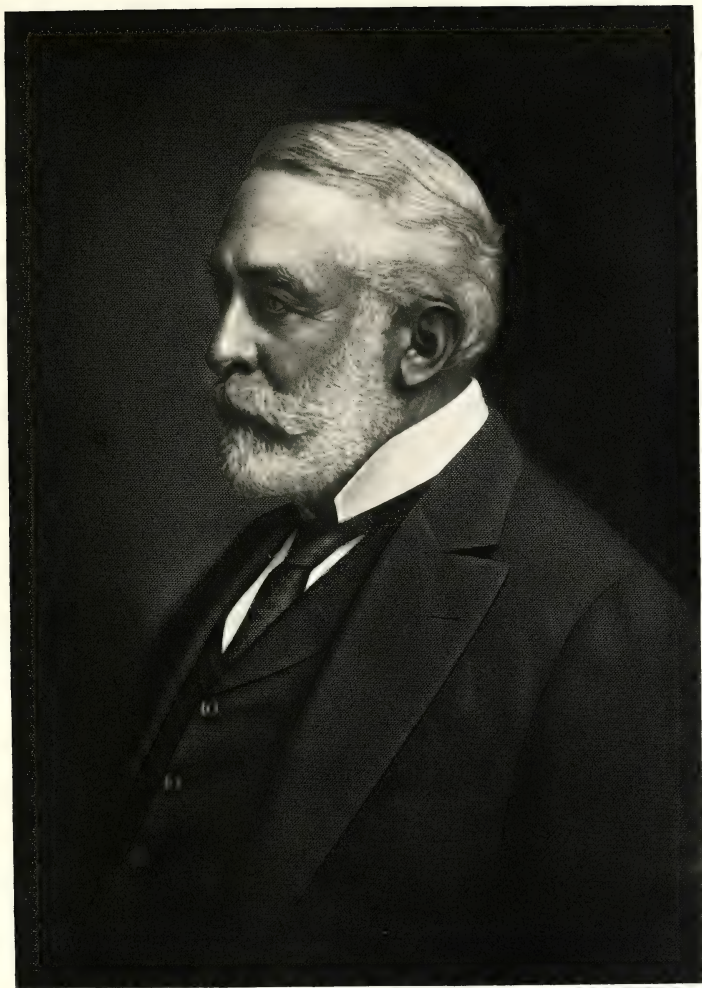
Dr. Holland is an active member of many of the foremost societies devoted to scientific research in both hemispheres. He is a fellow of the Royal Society of Edinburgh, of the Entomological and Zoological Societies of London; of the American Association for the Advancement of Science; and of the Geological Society of America. He is a member and former president of the Entomological societies of Cambridge, Massachusetts, and Western Pennsylvania; a member of the Entomological societies of Washington, New York, France, Germany, and Russia; of the Academy of Natural Sciences in Philadelphia; and the Pennsylvania Historical Society. He is an honorary member of the Anthropological and Geographical Society of Sweden; of the Royal Academy of Sciences in Bologna, Italy; of the National Academy of Science in Argentina; and of the Royal Society of Natural Sciences in Spain. To the latter position he was elected as the successor of the late Lord Avebury of England. Dr. Holland is a member of the Authors' Club in New York; of the Cosmos Club in Washington; and of the University Club in Pittsburgh. He has received in recognition of his learning and usefulness many honorary degrees. From Amherst College he has the degree of D. D., con-

ferred in 1888; from Washington and Jefferson College, the degree of Ph. D. (1886) and Sc. D. (1902). He has received the degree of LL. D. from Dickinson (1896), New York University (1897), St. Andrews in Scotland (1905), and Bethany College (1907). He has not merely been recognized by institutions of learning, but also by the sovereigns of various European countries as a representative American man of science. The Emperor of Germany in 1908 conferred upon him the Order of the Crown of Prussia, III Klasse, and in the same year President Fallières, in person, bestowed upon him the order of *Officier de la Légion d'Honneur*. In 1909 the Emperor of Austria, in person, made Dr. Holland an Officer of the Order of Francis Joseph; in 1910 he was made a Commander of the Crown of Italy by Victor Immanuel III; in 1911 he received the decoration of a Knight of the Order of St. Stanislas of the II Class, with the star of the I Class from the Czar of Russia; in 1913 King Alfonso XIII of Spain bestowed upon him the title of Commander of the Order of Alfonso XII; and in 1919 King Albert of Belgium with his own hands placed upon him the insignia of Commander of the Crown of Belgium, of which country Dr. Holland has been the Consul in Western Pennsylvania since 1918. This was upon the occasion of King Albert's visit to Pittsburgh.

Dr. Holland married, Jan. 23, 1879, Carrie T. Moorhead, youngest daughter of the late John Moorhead, in his time one of the leading iron-manufacturers and bankers of Pittsburgh. He has two sons, the elder, Moorhead Benezet Holland, a lawyer and trust officer of the People's Savings and Trust Company of Pittsburgh; the younger, Francis Raymond Holland, an artist, residing at Darien, Conn.

This necessarily brief resumé of the life work of Dr. Holland gives but a scanty idea of his great versatility and the remarkable work he has accomplished in his chosen fields. The great Museum of the Carnegie Institute is one of the most wonderful collections in this country, and in some of its departments is superior to any in the world. To supervise the collection and properly classify and exhibit the treasures gathered from every part of the world is but one of his many duties, and in this particular field of museum management he is unrivaled. He has achieved prominence in every field of activity he has entered, and as clergyman, educator, naturalist, author, or administrator of civic affairs, he has won the regard and esteem of his fellow-workers not only at home, but in many foreign lands.

HENRY CLAY FRICK was born at West Overton, Pa., Dec. 19, 1849, son of John Wilson and Elizabeth (Overholt) Frick. His earliest American ancestors came from Switzerland in 1750, and settled in Eastern Pennsylvania. George Frick, his great-grandfather, established himself on a farm in 1770. His grandfather, Daniel Frick, was born in 1796, and was married to Catharine Miller in 1819. Their son, John W. Frick, was born in 1822. Mr. Frick's mother was of German ancestry, and the daughter of Abraham Overholt, one of the largest land owners of his time in Southwestern Pennsylvania.



Henry C. Frick

Henry Clay Frick received his education in the public schools and at Otterbein University, Ohio. He began his business career as a clerk in a dry goods store at Mount Pleasant, but in 1869 became a book-keeper in the office of his grandfather at Broad Ford, Pa. In 1871 his attention was called to the value of the coking-coal deposits in the vicinity of Broad Ford. Cokemaking, then in its infancy as an industry, was a business with which he was not familiar, but after a thorough investigation, with several business friends, he formed a partnership known as H. C. Frick & Company, bought three hundred acres of coal land, and built about fifty coke ovens. The business expanded rapidly, as a ready sale was found for the product at foundries and furnaces all over the country, and in 1873 the firm had two hundred ovens. During and after the panic of 1873 he began leasing works and coke lands extensively, and bought more good properties. In 1876 he bought out his partners. The profits were promptly reinvested in coal land, and in 1882 the firm was merged into the H. C. Frick Coke Company, with a capital of \$2,000,000. Carnegie Bros. & Company, Limited, became also large stockholders in the H. C. Frick Coke Company, and the capital was increased to \$10,000,000.

The remarkable qualifications as an organizer and director of vast business interests shown by Mr. Frick brought him an offer, in 1889, of interest in and official connection with the Carnegie concerns. He was admitted to the firm of Carnegie Bros. & Company, Limited, as its chairman, and on the consolidation of all its interests, except coke, under the title of the Carnegie Steel Company, Limited, in July, 1892, Mr. Frick became the executive head of the new association, with the capital of \$25,000,000. He was necessarily brought into public prominence occasionally through the labor disturbances incident to the operation of such great industries, notably that at the Homestead works of the Carnegie Steel Company. On July 23, 1892, while efforts were being made to settle the difficulties, an anarchist named Berkman entered Mr. Frick's office, shot him twice and stabbed him. In 1895, at his own request, the duties as the chairman of the Carnegie Steel Company, Limited, were divided, and a president was appointed, to whom most of the executive details were transferred, Mr. Frick retaining the official title of chairman of the board of managers. In 1897 he also relinquished the management of the minor affairs of the H. C. Frick Coke Company, becoming chairman of its board of directors. The properties of the companies of which he was the official head consisted, in 1899, of mines producing 6,000,000 tons of iron ore per annum; 40,000 acres of coal lands; and 12,000 coke ovens; steamship lines for transporting ore to Lake Erie ports; docks for handling ore and coal; a railroad from Lake Erie to Pittsburgh, hauling ore to the works and coal to the lake, and connecting the various works; 70,000 acres of natural gas territory, with 200 miles of pipe line to the works; nineteen blast furnaces and five steel mills, producing and finishing annually 3,250,000 gross tons of steel. Near the close of the year 1899 a personal difference arose between Messrs. Carnegie and Frick which, however, was speedily adjusted and resulted in the forma-

tion of the Carnegie Company, in March, 1900, with a paid-up capital of \$160,000,000, embracing the Carnegie Steel Company, Limited, the H. C. Frick Company, and more than twenty subsidiary companies.

Mr. Frick was well known in financial circles; he was a director of the City National Bank of New York, the Mellon National Bank of Pittsburgh, also of the American Trust Company. He had for several years made New York his place of residence. In business Mr. Frick was wonderfully quick and accurate in his judgment of men and affairs. It appeared easy for him to select the best man for a particular duty. He never lacked courage to vigorously carry out his decisions. He was equally firm and courageous in opposing any measure of which his judgment or strong sense of right disapproved. Personally he was extremely modest, and sympathetic and unassuming in his intercourse with others. His charities were many in number, but were quietly and modestly bestowed.

On Dec. 15, 1881, he was married to Adelaide Howard Childs, daughter of the late Asa P. Childs, of Pittsburgh. To them have been born four children, two sons and two daughters, one son and one daughter being deceased. On Dec. 2, 1919, Mr. Frick passed away.

JOHN HARPER, banker and financier, was born in County Donegal, Ireland, Dec. 5, 1811. He was of gentle English lineage. His ancestors from the reign of James I. (when the first came from England) until the death of Robert Harper, his grandfather, were owners of one of the townlands in County Tyrone, Ireland. In 1820 John Harper's parents brought their family to America and settled in Washington, D. C. In the following year, his father, Hugh Harper, died, and about the same time his grandfather, Robert Harper (who had previously come to this country and joined his son at Washington), also died.

A friend of the family, of liberal education and fine abilities, took charge of the education of young John, and he became solidly grounded in all the English branches and gained a taste for history and the better classes of general literature, of which he acquired, in after life, a thorough mastery. In 1826 his widowed mother removed from Washington to Jefferson county, Ohio. Here John, her eldest child, with characteristic independence and self-reliance, determined to lighten his mother's burden by providing for himself. He secured a position in a mercantile house in Steubenville, Ohio, and so won his way that at the age of nineteen he was made bookkeeper and confidential clerk. In 1831 he accepted an advantageous offer as bookkeeper of one of the largest mercantile establishments in Pittsburgh, Pa. He so well fulfilled the duties of this situation that, on Sept. 19, 1832, without his solicitation and without his knowledge, young Harper was chosen to fill the position of chief clerk of the Bank of Pittsburgh. His aptitude, keenness and ability so impressed his superiors that after a few years of experience in the parent institution, he was sent as cashier to the branch bank at Beaver, Pa., in 1837. In a short time he was recalled to Pittsburgh, becoming the assistant cashier of the Bank of Pittsburgh, afterward its cashier, and finally



John Harpur

the president of the institution, where he remained until his death. The history of the old Bank of Pittsburgh for the last thirty-five or forty years of Mr. Harper's life was his history, for institution and man were most closely identified, the master-mind of the latter invariably dictating and carrying out the policy pursued in reference to the former during that long period of time. There is no institution in America that can show a cleaner or more honest record. Other banks may have made more money; but this one, in its long history since 1812, has never repudiated an obligation nor failed to pay a semi-annual dividend, neither has there been a defalcation in its accounts nor a misdemeanor by any of its officers, involving the loss of a dollar. It has the reputation of never having suspended specie payments. During the whole period from 1861 to 1879, the eighteen years during which the government was in a state of suspension, the old bank maintained its position as a specie-paying institution. This course was suggested by Mr. Harper at a meeting of its directors held in 1861, and was carried out while he was the executive head of the bank. It became possible through his having obtained from banks in the cities of Philadelphia and New York, before the breaking out of the war, large amounts of gold, his wisdom foreseeing the condition of financial affairs which soon occurred, but which were not anticipated then by other bankers. The fact that the bank has also safely passed through all the financial crises that have taken place in the last half a century is owing largely to the financial ability and prudence of John Harper. While to this institution he always gave his first care and thought, he was a useful member of society in many other ways, filling a number of positions of trust and responsibility. He was president of the Pittsburgh Clearing House from its creation until his death. He was one of the founders of the Western Pennsylvania Hospital and its president for twenty-five years, and was also the president for many years of the first bridge that connected the cities of Pittsburgh and Allegheny, besides holding a number of other positions of trust in the directorship of business and educational institutions. During the Civil War he was chairman of the committee on finance at Pittsburgh and worked hard for the success of the North. John Harper took his recreation from his multifarious business interests and duties among his books, and he possessed one of the finest libraries in Western Pennsylvania, containing many rare and choice works. He was a thorough scholar of history and English literature, and a writer of great power.

In 1836 he was married to Lydia Electa Metcalf, daughter of Nathan Williams Metcalf, of Otsego county, N. Y., who survives him, and he led with her and their children an ideal family life. He was always a loving and devoted husband and father. He had a great heart, governed by a great mind and strong will. He was a "man among men," a master-mind in finance, and a gentleman of broad culture; straightforward and honorable in all his dealings with his fellow-men, he ever commanded their admiration and respect. All his conduct in life was actuated by pure and lofty motives. He achieved whatever he undertook, and it can truly be said that his life was a grand success. He died April 5, 1891.

JOHN M. PHILLIPS—The record of the activity of John M. Phillips, president of the Phillips Mine and Mill Supply Company, is written in fields of endeavor apparently widely separated, but in reality having a common basis. These fields are those of industrial manufacture and nature work, notably the conservation of natural resources, and the fundamental principle they have in common is that they are directed toward the service of human kind in making possible a better, more efficient use of nature's bountiful gifts. Widely known as an industrialist and inventor, he has an equally large acquaintance as a naturalist, while a long identification with the Boy Scout Movement, in which he is a member of the National Executive Board, has given him a wide circle of juvenile friends.

Mr. Phillips, on his maternal side, is a great-great-grandson of David Provost, who, though born at Gedney Hill, Lincolnshire, England, was of French descent. His ancestors were Huguenots and accepted exile rather than renounce their religious faith. They were skilled engineers, and through draining extensive swamps on the estates of the Duke of Bedford amassed a fortune. James Provost, born in 1777, son of David Provost, married Ann Pullen, in 1800. Two of their children, Watson and Mathilda, emigrated to the United States. Ann Pullen Provost, the daughter of Watson Provost, was the mother of John M. Phillips.

Paternaly, Mr. Phillips is a grandson of James and Elizabeth (MacFarland) Phillips. The mother of Elizabeth MacFarland was a Montgomery. The Montgomery and MacFarland families settled on the North Side, Pittsburgh, on what was known as Montgomery Hill, prior to 1800. James Phillips emigrated from the North of Ireland in 1795, and settled in Baldwin township, Allegheny county, Pa., and established a blacksmith shop where bolts, nails, hinges and other hardware were made for the early pioneers from iron brought across the mountains on pack horses. He had three daughters and four sons; two of the sons, James and John, engaged in the business of brick contracting and building. Subsequently, the one brother, John, associated himself with Messrs. William J. Lewis and Henry W. Oliver in establishing the firm of Lewis, Oliver & Phillips, now known as the Oliver Iron and Steel Company.

James Phillips, the other brother, and the father of John M. Phillips, branched out into a general contracting business and railroad construction work, handling some notable contracts. James Phillips married Ann Pullen Provost, and of this union three daughters and five sons were born; of these children, John M. Phillips was the eldest.

John M. Phillips was born in Pittsburgh, Pa., Feb. 15, 1861. He attended the public schools of that city, and graduated from the Pittsburgh High School. After studying engineering, he became actively identified with the Lewis, Oliver & Phillips Company, filling the position of superintendent of its bolt works and forging plants, and subsequently was made manager of its mine equipment department.

In 1889, with his uncle, John Phillips, Mr. Phillips purchased the Mine Supply Department of the Oliver Iron and Steel Company, establishing a co-partnership under the name of the Phillips Mine Supply Company.



Geo. M. Phillips

In 1900 the concern was reorganized and incorporated as the Phillips Mine and Mill Supply Company, and Mr. Phillips was elected president of the new company, which position he has since held. From a small beginning the company has prospered and expanded until its plant now occupies a large area in the South Side district of the city, and its product finds a ready market throughout the world. Mr. Phillips has invented many labor-saving, coal-handling devices which are manufactured by his company, among them the Phillips Automatic Cross Over Dump, which is known wherever coal is mined, his company having installed a sufficient number to handle the entire coal production of the world if operated to their capacity. Associated with Mr. Phillips as executive officers of the company are his brothers, Watson P. and Robert F. Phillips, vice-presidents.

Mr. Phillips is essentially an out-door man, his leisure having been spent with gun and camera in the fields, woods and mountains, in many instances in regions hitherto unexplored by white men, and it is natural that his activities, aside from his business, should be along outdoor lines. He is a practical conservationist of wild life, and as a member of the Board of Game Commissioners of Pennsylvania for the last sixteen years, has assisted in placing upon the statutes many wise and beneficial measures tending to protect and conserve for future generations the wild life of the State. Appreciating the esthetic and economic value of our song and insectivorous birds, he was a pioneer in the movement for their protection, and with this end in view has distributed many bird-houses and thousands of Russian mulberry and cherry trees to the school children and Boy Scouts of Allegheny county.

With Dr. William T. Hornaday he collaborated in "Campfires in the Canadian Rockies," writing of a region with which he was intimately familiar through many extended visits. As a direct result of this book and the strenuous campaign led by Dr. Hornaday and Mr. Phillips, the British Columbia Government in 1908 set aside about 450,000 acres of wild mountainous land in the East Kootenay District of British Columbia as a game sanctuary, known as Goat Mountain Park, from a scenic and wild life standpoint one of the finest preserves in America.

On one of his Western trips, in 1901, Mr. Phillips discovered the remnant of a herd of elk in the East Kootenay District of British Columbia, on the headwaters of the Elk and Bull rivers. These elk were being exterminated by the Stoney Indians, and it was through Mr. Phillips' efforts that the British Columbia Government declared a closed season on them, with the result that today thousands of these animals show the benefits of a closed season. Mr. Phillips has been awarded the Gold Medal of the Permanent Wild Life Protection Fund of America for universal wild life protection and the creation of game sanctuaries in the United States and Canada.

Mr. Phillips is a member of the Duquesne Club, Pittsburgh Athletic Association, Rotary Club of Pittsburgh, Engineers' Society of Western Pennsylvania, and South Hills Country Club; president of the Lewis and Clark Big Game Club; Campfire Club of America (honorary); Camp-

fire Club of Chicago; vice-president of the Board of Game Commissioners of Pennsylvania; a director of the American Bison Society; and a director of the South Side Hospital of Pittsburgh. He is also a member of the National Executive Board of the Boy Scouts of America, and is familiarly known to the Scouts as "Chief Silver-Tip." To this work he has given generously of his time, and has become personally known in many troops throughout the country. Mr. Phillips speaks the Scout language, talks with authority on the subjects in which they most delight, and wields a potent influence for good in the organization because of his many points of contact with the Scouts in their out-door work. He was one of the officials who accompanied the three hundred selected Boy Scouts of America who attended the Boy Scout Jamboree in London, and visited the battlefields of France and Belgium in 1920. He is a thirty-second degree Mason, a Knights Templar, and a member of Syria Temple, Ancient Arabic Order Nobles of the Mystic Shrine. He is a Presbyterian in religious faith, and his political affiliations are along Republican lines.

In February, 1906, Mr. Phillips married Harriet Templeton Duff, daughter of Dr. John Milton and Jennie (Kirk) Duff, and they are the parents of the following children: Anna Jane, Mary Templeton, Margaret Watson, John MacFarland, Jr., and James Macilduff Phillips. Mr. Phillips resides in Carrick borough, a suburb of Pittsburgh.

EDWARD HENRY JENNINGS—The present work would be incomplete if it failed to make a record of the lives of those men who have risen to eminence in Pittsburgh as divines, scholars, lawyers and doctors, as well as those who by a series of successful efforts have gained a position in the first ranks of our cities as bankers, merchants, manufacturers, and business men. Among the men of the latter class, whose names and reputations belong to the highest rank of their chosen work, is the subject of this sketch, Edward Henry Jennings. The financial institutions of a city are a fair index of its commercial character and strength through the successive stages of its history. They are the centers around which all the movements of trade gravitate and by which they are regulated. Like the thermometer, which feels the most delicate touches of the fingers of the air, they are sensitive to every variation of the commercial atmosphere. They are the heart through which flow the streams that must keep up a healthy circulation, hence the importance of confidence in their ability to meet all demands and wisdom to direct in matters of commerce and finance. To this end it is necessary not only to have substantial capital, firm, available assets, but wise, judicial, efficient and irreproachable officers and directors, whose administration and character strengthen confidence. Prominent among such men is Mr. Jennings, who has won an enviable name and place for himself in financial and oil circles of Pittsburgh.

Mr. Jennings was born at Bradys Bend, Pa., on Aug. 10, 1852, and is a son of Richard and Katherine (Evans) Jennings, old and highly respected residents of that town. Receiving his early education in the

public schools of the day, he won his broader education in the hard school of experience. As a young man he became associated with his father in the production of petroleum and was thus engaged to the exclusion of all other activities from 1872 until 1891. In the latter year he became a member of the firm of E. H. Jennings & Brothers, which for many years has been one of the leading concerns in the oil industry in Pennsylvania.

In 1893 Mr. Jennings became associated with the Columbia National Bank, in fact was one of the founders, and at the present time holds the office of president. He is also associated with numerous other companies throughout the State, and among the most important are the Delmar Oil Company, of which he is treasurer and a director; the Dollar Savings Bank, of which he is a trustee; the Emerald Coal and Coke Company, of which he is a director; the Citizen Savings Bank, of which he is a director; the Jennings Mines Company, of which he is president and a director; the Jennings Oil Company, of which he is president and a director; the Kanawha Oil Company, of which he is treasurer and director; and the Manufacturers Light and Heat Company, of which he is a director.

In politics, Mr. Jennings is a strong Independent, and though he takes the interest of every genuine American in the affairs of the State, he can never be prevailed upon to accept office. Mr. Jennings is a member of the Duquesne Club. In religious affiliations he is a member of the church and takes an active interest in all its affairs.

On Sept. 3, 1879, Mr. Jennings married (first) Mary J. Colwell, who was born in April, 1853, a daughter of John A. and Rebecca Colwell, of Kittanning, Pa., and whose death occurred in August, 1896. To this union were born five children, as follows: Richard G., Rebecca, Katherine E., Mary Brooks, and Edward H., Jr. Mr. Jennings married (second) in 1905, Ella Bailey, the daughter of Mr. and Mrs. Bailey, of Pittsburgh, Pa. Of this marriage two children were born: M. Verner and Barbara Bailey.

Mr. Jennings' brilliant mind and acute business capacity have had full scope, and he has developed himself in a marvelous degree. Keen, analytical, an excellent judge of men, understanding thoroughly not only the banking business in all of its ramifications, but its aspect from a legal standpoint, he is an ideal financier, and yet he never allows himself to be carried away by any surface emotion, but carefully weighs each matter, not disposing of it until thoroughly satisfied as to his ultimate decision. It is just such men who are needed at the head of all great enterprises, men whose minds are so prepared by study and experience to successfully and forcibly grasp the huge problems that are daily presented to them and to wring success from seeming defeat. There are not many such, and if there were the history of the country would be different. Were all bankers of the caliber of Mr. Jennings, there would be no terrible bank failures and ensuing distress among the humble depositors. Under the management of such a financier the affairs of the State would move conservatively, profitably and securely,

and those most deeply interested could ever feel that full confidence that begets the re-opening of mills, the establishment of new industrial and commercial concerns, the full dinner pail, the contented employee, and the substantial employer, in fact the era of prosperity, with stable foreign credit, and unimpaired home security.

DAVID T. WATSON—Pittsburgh, supreme in the material world, is no less so in the realm of the intellect, inasmuch as she claimed as one of her leading citizens David Thompson Watson, of the firm of Watson & Freeman, a lawyer whose name was known and honored not only in his own State, nor even in his native land, but in every quarter of the globe where the English language is spoken.

James Watson, father of David Thompson Watson, was born in 1810, at Canonsburg, Washington county, Pa., graduated from Canonsburg College, and studied law under the guidance and instruction of Thomas McKenna. In 1833 he was admitted to the bar, and soon after was received into partnership by his preceptor, who recognized his remarkable ability, and whose election to Congress caused him to feel the need of a capable associate. For more than forty years thereafter Mr. Watson continued to practise his profession, achieving marked distinction at the Washington county bar—a man of legal learning, analytical mind, and extraordinary readiness in grasping the points in an argument. He married Maria Woodbridge, born at Canonsburg, daughter of George Morgan, and granddaughter of Colonel George and Elizabeth A. (Thompson) Morgan, the latter a daughter of David Thompson, of Delaware. George Morgan was a native of New Jersey, was educated at Princeton University, and at the age of sixteen accompanied his parents to Washington county, Pa. Mr. and Mrs. Watson were the parents of ten children, among them David Thompson, mentioned below. The death of Mr. Watson was mourned as that of a man of great natural endowments, a professional record without blemish, and a genial, kindly disposition, which had surrounded him with friends.

David Thompson Watson, son of James and Maria Woodbridge (Morgan) Watson, was born Jan. 2, 1844, at Washington, Pa. He received his preliminary education in the common schools, whence he passed to Washington College. His course of study was interrupted by the stirring events of the Civil War, and at the age of nineteen, when all Pennsylvania was excited over "Morgan's Raid," he enlisted for ninety days in the Fifty-sixth Regiment, Pennsylvania Volunteers, with the rank of orderly sergeant. One year later he was mustered in as lieutenant in Knapp's Battalion, and served with credit until the close of the war.

After his return to civil life, Mr. Watson entered the Law School of Harvard University, graduating in 1866. In 1905 the University of Pittsburgh conferred upon him the degree of Doctor of Laws. For a short time after graduation, Mr. Watson was associated in practice with his father, but then opened an office in Pittsburgh. He entered



S. J. Watson

into partnership with Hopkins & Lazear, and then with James Veach, but in 1873 the latter connection was dissolved, and Mr. Watson for a time practiced alone. Later he formed his partnership with Mr. Freeman.

The advancement of Mr. Watson in his chosen profession was rapid, and before many years had elapsed he had acquired a large clientele, and was one of the recognized leaders of the Allegheny county bar. This was due to sheer force of ability, the possession of that judicial instinct which makes its way quickly through the immaterial to the essential, a broad, comprehensive grasp of all questions submitted for his consideration, and the exceptional strength of his reasoning powers. His practice was not limited to Pennsylvania, as he was frequently retained in cases tried in other states, and soon became a familiar figure in the Supreme Court of the United States. He was especially famed for his success in conducting cases of national and international importance, and was retained by the government in the Northern Securities case, argued in March, 1903, before the Circuit Court of Appeals, St. Louis, Mo. This case involved the construction of the Sherman anti-trust law, and the decision of the court was in accordance with the construction placed upon that law by Mr. Watson.

The greatest triumph of Mr. Watson's brilliant career was achieved in September, 1903, when he made his famous argument on the Alaskan Boundary Dispute before the International Tribunal in London. The court chosen for this purpose consisted of three eminent Americans appointed by the United States, and three of the most prominent jurists of Great Britain and Canada, the six constituting a joint commission. Mr. Watson, by his masterly argument on this occasion, convinced Lord Alverstone of the justice of his cause and won the case for the United States—a victory for the whole American bar, but a cause of special pride to the State of Pennsylvania and the city of Pittsburgh.

Almost immediately after his return to his native land, Mr. Watson added to the list of his American successes. He was retained by the city of Chicago as expert counsel to investigate and give an opinion in a controversy relating to traction matters long in dispute, and his opinion delivered in January, 1904, gave evidence of the deep and exhaustive study he had bestowed upon the subject. The style of Mr. Watson's oratory has been so often described that little remains to be said, and that little is a summary of the subject in a single sentence: "His manner of speaking convinces."

From politics, Mr. Watson held himself in a measure aloof. He was above all else a lawyer, devoted heart and soul to his profession, and not to be allured from his allegiance by the prospect of any office, however exalted. By his vote and influence he supported the principles advocated by the Democratic party. A scholar and a man of widest reading, he was not a recluse, but delighted in congenial companionship, and possessed the faculty of inspiring the same loyal friendship which it was his nature to bestow. He belonged to the Pennsylvania Society of the Sons of the Revolution, the Duquesne, Pittsburgh, University and Allegheny clubs, of Pittsburgh, the Rittenhouse Club, of Philadelphia, also the Tourville

Fish and Game Club, of Canada, hunting trips to the Dominion being among his favorite recreations. He attended the Third Presbyterian Church.

Mr. Watson married, June 10, 1889, Margaret Hepburn Walker, daughter of the late William Walker, who at his death in 1883 was president of the Farmers' Deposit National Bank of Pittsburgh. Their beautiful home was a center of gracious and refined hospitality, and was adorned with souvenirs of travel, gathered in this country and in foreign lands. Mr. Watson was the owner of large tracts of real estate in the vicinity of Pittsburgh.

Mr. Watson proved himself to be one of the giants of his profession, and the pride with which his native State regarded him was all the greater, inasmuch as she felt she could not wholly claim him. He belonged to the Nation. He maintained the ancient prestige of the bar of Pennsylvania, and by his national and international triumphs added new lustre to the splendid record of the bar of the United States of America.

David T. Watson passed away, Feb. 25, 1916.

REV. MAITLAND ALEXANDER, A. B., A. M., D. D.—A leading minister of the Presbyterian church, and for the last twenty-two years pastor of the First Presbyterian Church of Pittsburgh, Pa., Dr. Alexander has become a factor of more than usual significance in the religious progress of the city.

Dr. Alexander was born in New York City, April 8, 1867, and is a son of Henry M. and Susan (Brown) Alexander. After completing his preparatory studies in the schools of his native city, Dr. Alexander, as a young man, entered Princeton University, from which he was graduated in 1889, with the degree of Bachelor of Arts. He then went to Chicago, Ill., and spent the year 1889-90 at the McCormick Theological Seminary, in that city. Thereafter, entering Princeton Theological Seminary, he was graduated in 1892, at that time receiving the degree of Master of Arts. He was later honored by Lafayette College, of Easton, Pa., which conferred upon him, in 1897, the degree of Doctor of Divinity. Dr. Alexander was ordained to the Presbyterian ministry in the year 1892, and was called to the pastorate of the Long Branch, N. J., church of that denomination in 1893, and served this church for four years. In 1897 he was called to Harlem, N. Y., and there served for about two years. Then on May 1, 1899, Dr. Alexander accepted the pastorate of the First Presbyterian Church of Pittsburgh, and is still in charge of this parish. He early won the affection of his people, and has always commanded the sincere esteem of his contemporaries, without regard to denomination or creed.

Dr. Alexander was appointed moderator of the Presbyterian General Assembly in 1916. Politically he endorses the principles of the Republican party. He holds membership with the Pittsburgh Club, Duquesne Club, the Allegheny Country Club, the University Club, and the New York Yacht Club.

On April 17, 1896, Dr. Alexander married Madelaine F. Laughlin, of Pittsburgh.



J. H. Patterson

THOMAS PATTERSON—A member of the Allegheny county bar since 1880, and senior member of the law firm of Patterson, Crawford, Miller & Arensberg, Thomas Patterson has long held a position of prominence in his profession. In 1843 the family was first represented at the Allegheny county bar, and the legal record that stands in the name is one of usefulness and distinction.

John Patterson, the first ancestor of the family of record, is known to have lived during the latter part of the seventeenth century in the North of Ireland. Robert, his son, was born about 1685, and among his earliest recollections was that of the siege of Londonderry. He had two sons, Joseph and Robert.

Joseph Patterson, son of Robert Patterson, was born March 20, 1752, and about 1773 came to the American colonies, settling in Saratoga county, N. Y. Later he removed to Germantown, Pa., where he became a teacher in the schools. He was present at the first reading of the Declaration of Independence, at the door of the State House, and thereupon dismissed his school and enlisted as a private in the Continental army, serving in 1776-77. Afterward he migrated to York county, where he continued his work as a teacher, and also engaged in farming. In 1785, under the guidance of Rev. Joseph Smith, he began to study for the ministry, and on Aug. 12, 1788 was licensed to preach. On Nov. 10, 1789 he was ordained and installed pastor of the Raccoon and Montour Run churches, in Allegheny county. In 1816 ill health forced him to resign and he removed to Pittsburgh, where he continued to preach, also distributing Bibles and tracts. When General Lafayette, after an absence of forty years, visited the United States, he recognized Mr. Patterson, who was five years older than himself, as a companion in arms during the War for Independence. Mr. Patterson married (first) in Ireland, Jane Moak, a native of that country, and (second) Rebecca Leach, who was born in Pittsburgh. On Feb. 4, 1832, he closed his long, useful and eventful life, having served his adopted country as educator, soldier and minister of the gospel.

Robert Patterson, son of Joseph and Jane (Moak) Patterson, was born April 1, 1773, in Saratoga county, N. Y., and in 1790 entered Canonsburg Academy, reciting his first lessons under the shade of large trees, the buildings being not yet ready for occupancy. In 1794 he entered the junior class of the University of Pennsylvania, where his Uncle Robert was professor of mathematics, and in 1796 he began the study of theology. In 1801, after touring about four years, he was licensed to preach, and during the next six years ministered to two churches in the vicinity of Erie, Pa. In 1807 he moved to Pittsburgh and took charge of the Pittsburgh Academy, an institution which later developed into the Western University of Pennsylvania, now the University of Pittsburgh. From 1810 to 1836 he was in business as a bookseller, publisher and manufacturer of paper. From 1807 to 1833 he supplied the pulpit of the Pennsylvania church at Highland, seven miles north of Pittsburgh. It is worthy of note that the "Manuscript Found," supposed to have furnished the basis of the Book of Mormon, was left

at Mr. Patterson's printing house. Mr. Patterson married Jane, daughter of Colonel John Canon, founder of Canonsburg, the place named in his honor. In 1840 Mr. Patterson retired to the country, where he passed the remainder of his life. His death occurred Sept. 5, 1854, and two years later his widow passed away.

Robert Patterson, son of Robert and Jane (Canon) Patterson, was born Aug. 17, 1821, in Pittsburgh, and studied law under the preceptorship of Hon. Thomas H. Baird. At the end of three years he was admitted, in October, 1843, to the Allegheny county bar, and for three years more practiced his profession as the associate of Judge Baird. In 1840 he had graduated from Jefferson College, where he later filled the chair of mathematics. He was also professor in several colleges, including Oakland College, Mississippi, and Centre College, Kentucky. In 1863 he became joint owner and editor of the "Presbyterian Banner." At one period in his life Mr. Patterson performed military service in Kentucky, but during the Civil War his application for enlistment was rejected because of physical disability. In politics he was a Republican, and in religious belief a Presbyterian. Mr. Patterson died Nov. 30, 1889. He was a man of more than ordinary ability and of unblemished purity of character. He married, Aug. 27, 1851, Eliza, daughter of Judge Thomas H. and Nancy (McCullough) Baird, and the following children were born to them: Thomas, mentioned below; Jane; and Elizabeth.

Thomas Patterson, son of Robert and Eliza (Baird) Patterson, was born Nov. 14, 1856, and received his preparatory education in public schools, afterward entering the Western University of Pittsburgh. After his course at the university, whence he was graduated A. B. in 1876, A. M. in 1879, he taught for two years at Sewickley Academy, and in 1879-80 studied at Columbia Law School. On Dec. 30, 1880, he was admitted to the Allegheny county bar, and has since been continuously and successfully engaged in practice in Pittsburgh. He is now (1921) senior member of the firm of Patterson, Crawford, Miller & Arensberg, a leading law partnership of Pittsburgh. In 1904 Mr. Patterson was a government delegate to the Universal Congress of Lawyers and Jurists at St. Louis.

In 1906 the Supreme Court of Pennsylvania appointed him a member of the State Board of Law Examiners, a board composed of five members selected by the Supreme Court from the leading lawyers of the State, to pass upon the eligibility of applicants for admission to practice in that court; for some years he has been chairman of the board. Mr. Patterson was chosen and served for one year (1906-07) as president of the Pennsylvania State Bar Association. He was also for a time president of the Allegheny County Bar Association, and is a member of the American Bar Association. He is a trustee of the University of Pittsburgh, a member of the Pennsylvania Society of the Cincinnati, and adheres to the faith of his fathers as a member of the Leetsdale Presbyterian Church. He has done much to advance the best interests of his city, and his life has conformed to high standards in professional activity and citizenship.

Mr. Patterson married, June 2, 1892, Harriet W., daughter of D.

Leet and Mary (Williams) Wilson. Mr. Wilson, now deceased, was for many years president of the Fort Pitt National Bank, and vice-president and director of the Central District Telephone Company. He was a descendant of Daniel Leet, a pioneer of Western Pennsylvania. Mrs. Wilson is descended from Dr. Francis Herron, a leading preacher of old Pittsburgh, and pastor of the First Presbyterian Church. Mr. and Mrs. Patterson are the parents of one son: Robert Leet, born Aug. 16, 1893.

JOHN WILLIAM HERRON—For nearly two hundred years the name of Herron has stood for progressive business and industrial activities in the United States, and for considerably more than a hundred years has been identified with the growth and prosperity of the city of Pittsburgh.

(I) Mr. Herron's earliest ancestor in this country was Francis Herron, who was born in County Antrim, Ireland, and came to the United States in 1734, bringing three younger brothers, David, William and James, and two sisters, Mary and Elizabeth. They settled in Franklin county, Pa., in 1745, the locality where they lived still being known as Herron's Branch. Francis Herron married Mary McNutt, and they were the parents of three sons and two daughters: John, James, William, Mary and Sarah.

(II) James Herron, second son of Francis and Mary (McNutt) Herron, was born in 1754, and served with the colonies during the Revolutionary War, with the rank of major. He was a fearless soldier, widely noted for his devotion to the cause of American freedom, a man of gallant bearing and exemplary Christian character. He died in 1829. He married Nancy Davidson, and they were the parents of six children: John, William, Davidson, James, Nancy and Sarah.

(III) John Herron, eldest son of James and Nancy (Davidson) Herron, was born at Herron Branch, April 3, 1792, and in 1812 came to Pittsburgh, then still little more than a frontier town, and, of course, accessible only by wagon from the East. Here he entered the lumber business, confident that the water facilities of the city would make it a general distributing center for the limitless areas beyond. His judgment was amply vindicated, and he attained wealth and position. He married, in 1817, Clarissa Anderson, daughter of Major William and Nancy (Cain) Anderson.

(IV) William A. Herron, son of John and Clarissa (Anderson) Herron, was born in Pittsburgh, Aug. 7, 1821. He received an excellent education for that day, and his entrance into the business world was in the capacity of clerk with the early dry goods firm of A. Way & Company. Later he became a member of the firm of Herron Brown & Company (1846), one of his father's many interests, and of which his father was the head. This was one of the early coal concerns. The young man's health breaking, he soon was obliged to relinquish this position, and he spent about two years in travel. Thereafter he became engaged in the lumber business, in association with a brother-in-law, Richard Sill, and was also a member of the Herron-Blackburn Company, which built a railroad to

facilitate the distribution of coal. In 1855 he established a banking business on Sixth avenue, at the corner of Wood street. Within the next decade he was instrumental in the organization of the German Bank, the Iron City Trust Company, and the Third National Bank. He was the first president of the People's Savings Bank of Pittsburgh, with the establishment of which he was closely identified. Later, after six years of public service as clerk of the court of Allegheny county, he entered the real estate business (1863), and in 1877 received into partnership his son, John W. Herron, and still later receiving his son, Rufus H. Herron, as a partner (1883). This business was conducted under the name of William A. Herron & Sons, and was an active force in the rapid growth the city witnessed during the latter part of the nineteenth century. William A. Herron married Louise Jeannette Hills.

(V) John William Herron, youngest son of William A. and Louise Jeannette (Hills) Herron, was born in Pittsburgh, Dec. 1, 1851. He received his early education in the Minersville public school, thereafter entering the Western University of Pennsylvania, now the University of Pittsburgh, followed by private instruction at Newell Institute. He then became associated with his father in the real estate business, as heretofore outlined. Through his business activities, Mr. Herron early won his way to a position of prominence in this city. On July 1, 1902, he organized the Commonwealth Trust Company out of the real estate business of W. A. Herron & Sons, and he was elected president and director of that institution, which office he still holds. He is also a trustee of the Mary E. Schenley estate, director of the North Penn Coal Company, and trustee of the Pittsburgh Association for the Improvement of the Poor. He is a member of the Duquesne Club, also of the Pittsburgh Golf Club, Allegheny Country Club, Oakmont Country Club, and the University Club of Pittsburgh.

Mr. Herron married Jane C. Ross, daughter of Washington and Margaret (Copley) Ross; two daughters: Alice Virginia and Dorothy Ross. Their residence is No. 4845 Fifth avenue, Pittsburgh.

BENJAMIN FRANKLIN JONES, manufacturer, was born at Claysville, Washington county, Pa., Aug. 8, 1824. On his father's side he was of Welsh ancestry, while his mother was descended from a long line of Alsatian and Scotch ancestors.

After procuring his education in the public schools, he began his business career in 1843, as receiving clerk in the Mechanics' transportation line, of Pittsburgh, Pa. Four years later he rose to the position of partner and manager. While still in the transportation business, he became interested in an old iron furnace located in the Allegheny mountains, in partnership with Samuel M. Kier. The difficulties in operating the crude little furnace, the lack of fuel, and the poor quality of ores used, discouraged the two iron makers, and they finally abandoned the plant, Mr. Kier retiring permanently from the iron business. Mr. Jones, however, had unbounded faith in the future of the iron business, and in 1851 bought an interest in the American Iron and Steel Works at Birm-



B. F. Jones

ingham (now Southside), which were being built by Bernard Lauth. The firm of Jones, Lauth & Company remained for two years, when James Laughlin took the place of Mr. Lauth, and the partnership of Jones, Laughlin & Company was formed. Mr. Laughlin owned the Falcon furnace at Youngstown, Ohio, and shipped the pig iron to Pittsburgh to be made up into finished material. In 1853 the Monongahela Iron Works, at Brownsville, Pa., were purchased, and a year later were dismantled and taken to Pittsburgh, where, as the business of the company expanded, additions to the mills were made from time to time. There was not a blast furnace in Allegheny county up to this time, with the exception of a small one built in 1792 by George Aushutz, on Two-Mile Run, which was only operated two years. In 1858 Graff, Bennett & Company built the one-stack Clinton furnace to burn Pittsburgh coke, but it was a failure. The demand for furnaces closer to the Jones & McLaughlin Mills, which were now among the most important of the country, resulted in the building of the Eliza furnace (two-stacks) in 1861. These were the first in Allegheny county built expressly for the use of Connellsville coke, while to-day there are more than thirty-five. Later the business was incorporated as The Jones & Laughlin Company, Limited, and on Aug. 1, 1900, the company was reorganized as the Jones & Laughlin Steel Company, Mr. Jones being succeeded by his son, Benjamin F. Jones, Jr., as president. The elder Jones, however, remained a member of the board of directors and retained a general supervision up to the time of his death. The original plant in Pittsburgh had a capacity of forty tons of finished iron per day; in 1904 the daily output was 3,000 tons. In 1865 Mr. Jones originated the now universally used wage system, known as the sliding scale, by which the mill workers are paid at a stated rate per ton, based on the selling price of their product. This system solved innumerable difficulties and averted countless strikes and disturbances. In all of his active participation in the management of the Southside mills, Mr. Jones was recognized as a warm and staunch friend of the workmen. No Pittsburgh manufacturer stood higher in the esteem of the working classes. His success in business was due to his conservatism, careful judgment, far-sightedness, and the enterprise and push that permitted expansive operations when the circumstances justified, and much of the prominence Pittsburgh has attained as the center of the world's iron and steel industries is due to his intelligence and foresight. In 1884, he was chairman of the Pennsylvania delegates to the Republican National Convention, and labored energetically for the election of the presidential candidate, James G. Blaine, who was a native of his own county and a personal friend. Before the Civil War he had been a Democrat, but that rupture made him an ardent Republican, and he took an active part in sustaining the Federal cause, both by promoting enlistments and by subscribing liberally toward the sustenance and comfort of the soldiers and their families. Mr. Jones was a member of a number of scientific and engineering societies, was president of the Iron and Steel Association from 1885 until his death, and was a director of a number of banks and trust companies of Pittsburgh.

Mr. Jones married, May 21, 1850, Mary McMasters, daughter of John McMasters, of Allegheny county, Pa., and had six children. He died in Pittsburgh, Pa., May 19, 1903.

HARRISON NESBIT—From the law into financial work and thence into official position in one of Pittsburgh's best known institutions, the Bank of Pittsburgh, National Association, has been the course of Mr. Nesbit's career, and since 1909 he has been intimately associated with Pittsburgh and her interests. Mr. Nesbit is a native of the Middle West, son of Scott and Annetta (Johnston) Nesbit, his father for many years prominent in banking circles and political movements in Missouri. Later in life Scott Nesbit entered the government service in responsible office in connection with the coast and geodetic survey, making his headquarters and residence in Washington, D. C.

Harrison Nesbit was born in Osceola, Mo., Sept. 15, 1875, and obtained his preliminary education in the Episcopal High School of Virginia and the Berkley School. Study in the Massachusetts Institute of Technology was followed by a course in the National University Law School, of Washington, D. C., where he was awarded both bachelor's and master's degrees in law. In 1903 and 1904 he was special attorney in the Bureau of Corporations at Washington, subsequently becoming assistant law officer for the Department of Commerce and Labor. Receiving an appointment as national bank examiner, Mr. Nesbit resigned his professional post in this department, and in 1908 became chairman of the fourth district, which includes Ohio, West Virginia, and Pennsylvania. In May, 1909, he was elected first vice-president and director of the Bank of Pittsburgh, National Association, and on Feb. 10, 1910, succeeded to the presidency of this institution. His administration has been successful from every standpoint, and the usefulness and strength of the institution have increased under his direction. Mr. Nesbit, in addition to this, his leading interest, is a director of the Federal Reserve Bank of Cleveland, Pittsburgh branch; the Westinghouse Electric and Manufacturing Company; Westinghouse International Company; the American Foreign Banking Corporation, of New York; Four States Coal Company; Weirton Steel Company, Weirton, Va.; the American Refractories Company; and the Pittsburgh Lamp, Brass and Glass Company. He occupies a position of influence and importance in the Pittsburgh world of affairs, and has given valuable service to leading organizations.

Mr. Nesbit is a member of numerous clubs, among them the Duquesne Club, the University Club, the Pittsburgh Athletic Association, the Railroad Club of New York, the Oakmont Country Club, the Brackenridge Heights Country Club; the Warrenton Country Club, Warrenton, Va.; the Woodmont Rod and Gun Club, the Fauquier Club, and the Popes Island Club.

Mr. Nesbit married Edith Caroline Herron, of Washington, D. C., and they are the parents of three children: Scott Herron, a student at the University of Virginia, Edith Caroline, and Nancy Elizabeth.

THEODORE DILLER, M. D.—Pittsburgh's list of eminent citizens would indeed be incomplete without the names of those faithful, untiring benefactors of their fellowmen, the physicians, who, in honesty and with high ideals of professional honor, minister to the community in more vital ways than can any other class of professional men or public officials. In the big moments of life, it is upon the offices of the physician that much must depend. From the beginnings of life to its final passage from the scenes of its joys and its sorrows, the physician, if he be faithful and efficient, plays the heroic part, fighting the battles of life and death for those who place themselves in his keeping. Surely no profession offers higher possibilities of service, and no calling, faithfully followed, merits deeper gratitude and appreciation from those whom it serves. If he be great of heart and spirit, as well as skilled in the theory and practice of his art, then indeed does he follow in the footsteps of the Great Physician and minister both to body and to spirit. Among those whose faithful and eminent services in this line are worthy of highest appreciation is Dr. Theodore Diller, who has been practicing in Pittsburgh for nearly thirty-one years.

Theodore Diller, son of George J. and Mary (Kreider) Diller, was born in Lancaster, Pa., Aug. 25, 1863. He received his early education in St. James' Parochial School (Episcopal) at Lancaster, and in the Lancaster High School. He then entered the University of Pennsylvania, graduating from the School of Medicine in 1886. Four years later, 1890, he came to Pittsburgh and engaged in the practice of his profession. Ambitious, industrious, devoted to his work, and fully alive to the responsibilities of his chosen profession, he steadily built up a large and increasingly successful practice. With success assured and economic prosperity attained, however, he had no intention of settling down into comfortable, routine mediocrity. He continued to add to his knowledge and to his skill, keeping in touch with each advance made in medical and surgical fields in order that he might give to his patients the best possible service. Possessed of a scientific mind, he added to that possession the high gift of a deep interest in his fellowmen. Thus it is that he has continued to grow, steadily adding to his equipment for his work, and steadily rendering more and more valuable service.

In order that his interest and his mental grasp might retain their freshness, he has found time for club affiliations and for the indulgence of a strong taste for historical research. He is a member of the Duquesne Club, the University Club, and of the Pittsburgh Athletic Association. He is also a member of the Pittsburgh Chamber of Commerce. Politically, Dr. Diller supports the Republican party, but has never spared from his professional work the time for active participation in the activities of the party he supports. Both he and his family are members of the Protestant Episcopal church.

On Sept. 8, 1899, in Trinity Church, Pittsburgh, Dr. Diller married Rebecca (Chambers) Craig, daughter of Isaac and Rebecca McKibben Craig, and granddaughter of Neville Craig, son of Major Isaac Craig, one of Pittsburgh's first settlers. She died Dec. 4, 1908, leaving three chil-

dren: Winifred, born in 1902; Theodore C., born in 1904, and George E., born in 1906.

Dr. Diller is the author of two historical works, one dealing with his own field, entitled "Franklin's Contribution to Medicine," the other, purely historical, entitled "Washington in Western Pennsylvania."

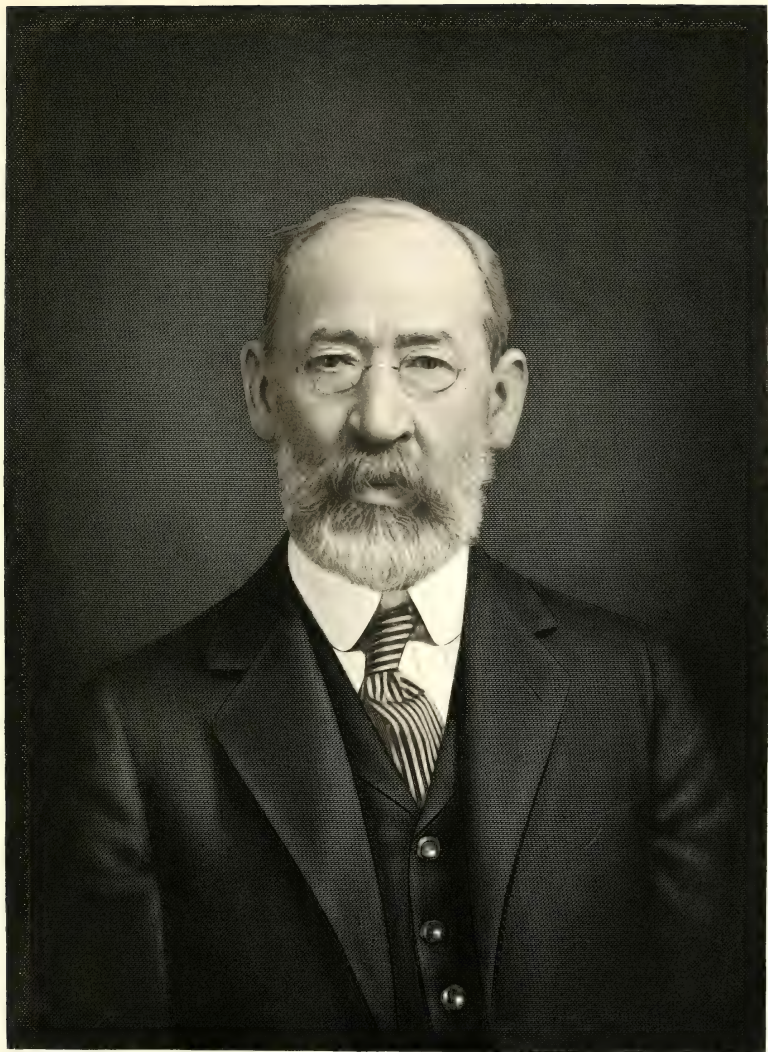
JAMES H. MATTHEWS—The men who have occupied leading places in the business world of Pittsburgh have been men able to stamp their own individuality upon the interests directly under their control, and thus make them merge into those general conditions which go to make up the city's welfare. Among these men is James H. Matthews, head of the well known firm of James H. Matthews & Company, Incorporated.

James Henry Matthews was born in Pittsburgh, Pa., in the Squirrel Hill district, Sept. 13, 1864, son of the late John D. and Eliza Jane (Black) Matthews. His education was received in the schools of his native city, and upon its completion he entered the stencil and die cutting establishment founded by his father. Learning the business from the ground up, he rose step by step until in 1892 he became head of the firm, which was reorganized as James H. Matthews & Company, Incorporated. The business has expanded largely, and at the present time is the largest manufacturers of marking devices in the country. The enterprise is now located in a handsome three-story building, Nos. 3942-3944-3946 Forbes street, Pittsburgh, and the products of the company are known throughout this country and abroad for their excellence. Mr. Matthews has no outside interests in a business way, devoting all his time to the duties of his office as president of the firm of James H. Matthews & Company, Incorporated. Mr. Matthews is affiliated with the Republican party, but has never held office. He is a member of Pittsburgh Lodge, No. 484, Ancient Free and Accepted Masons.

Mr. Matthews married, Sept. 10, 1900, Ida Kramer, daughter of Dr. Philip L. and Minerva Minor (Crawford) Kramer, of Greensboro, Greene county, Pa. Dr. Kramer's ancestors were members of a company which established the first glass factory west of the Allegheny mountains, at New Geneva, Fayette county, Pa.; Minerva M. Kramer was a descendant of George Wilson, brigadier-general in the Continental army during the Revolutionary War. Mr. and Mrs. Matthews are the parents of a daughter: Louise Crawford, born Aug. 30, 1903. Mrs. Matthews is a member of the Academy of Science and Art, New Era Club, Oakland Women's Club, and other organizations.

The record of James H. Matthews is that of an able, aggressive, business man and public-spirited citizen. His record worthily supplements that of his father.

GEORGE ALEXANDER MACBETH—Not to every pioneer is it given to obtain in his chosen field of endeavor the rewards of wealth and honor, but to George Alexander Macbeth, of Pittsburgh, Pa., first manufacturer of optical glass in the United States, was vouchsafed this rare



Geo. A. Macbeth

good fortune and peculiar distinction. On his father's side, Mr. Macbeth was a representative of one of the most renowned of the old Scottish families, while through his mother he was of French lineage, his ancestors having been of the number of those heroic Huguenots who preferred exile to apostasy.

The ancient name of Macbeth is also spelled Mackbeathe, MacBeth and McBeth. Some of the family who embraced the doctrines of John Knox were driven by religious persecution from their own country and fled, as did so many of their compatriots, to the North of Ireland. Alexander Macbeth, a descendant of one of these refugees, was born in County Antrim, Ireland, and married Mrs. Nancy Hambleton, whose first husband had been accidentally drowned. Subsequently, Alexander Macbeth emigrated to the province of Pennsylvania, prior to the French and Indian War. He was accompanied by his two brothers, Andrew and John. Andrew Macbeth, who was great-grandfather of George Alexander Macbeth, of Pittsburgh, married Mrs. Ann Fleming, by whom he became the father of one son, Alexander, of whom further.

Alexander Macbeth, only child of Andrew and Ann (Fleming) Macbeth, was born in Cumberland county, Pa., in 1762, and in his early manhood was colonel of a body of Pennsylvania troops. In 1806 he visited Ohio, purchasing property in Champaign county, where he was one of the pioneers. He built the first brick house in the county, and took across the mountains the first carriage with springs. That he occupied a high place in the esteem and confidence of his neighbors is proved by the fact that he was twice elected to represent them in the Ohio Legislature, serving his first term when that body convened at Chillicothe, and his second when it met at Zanesville. Mr. Macbeth married, July 8, 1790, Rachel Whitehill, who survived her husband a number of years, her death occurring Feb. 13, 1846.

James Reed Macbeth, youngest child of Alexander and Rachel (Whitehill) Macbeth, was born March 6, 1805, in Carlisle, Pa., where he grew to manhood. He studied law under the preceptorship of his uncle, James Whitehill, but afterward became a merchant in Ohio. He married, Nov. 15, 1832, Rev. Leroy Woods officiating, Frances A. Bayard. James Reed Macbeth died Aug. 29, 1882.

George Alexander Macbeth, son of James Reed and Frances A. (Bayard) Macbeth, was born Oct. 29, 1845, in Urbana, Ohio, where he received his education and passed his childhood and early youth. His business career began in 1862, when he went to Springfield, Ohio, where for the following six years he was employed as clerk in a retail drug store. In 1868 he came to Pittsburgh, and for the next three years was engaged in the wholesale drug business in this city. It was in 1872 that Mr. Macbeth first associated himself with the glass business, becoming in that year a travelling salesman. It was not long before his enterprising spirit inspired him to independent effort, and he engaged in the manufacture of glass, undertaking in 1877 that branch of the industry with which his name will ever be inseparably associated—the making of optical glass. Into this venture he threw his whole soul, devoting himself to it with all the intense application and concentrated energy of

which he was capable. The success which rewarded his efforts was exceptional in that it was immediate, his early achievements meeting with as much favor from the public as his later endeavors. In 1893 he exhibited at the World's Fair in Chicago the first specimens of American-made optical glass, receiving a prize, a medal and a diploma. At this fair he was alternate commissioner, receiving his appointment from Governor Patterson. Mr. Macbeth's large plant was justly regarded as one of the industrial glories of Pittsburgh. Extensive in proportions and perfect in equipment, its products have had a world-wide reputation for unsurpassed excellence, and since 1880 have manufactured more lamp chimneys than any other manufactory in the world, their finest grades being sold in all parts of the globe.

Mr. Macbeth was the first American manufacturer to undertake the manufacture of lighthouse lenses and illuminating apparatus for lighthouses and for coast service, and his firm successfully competed with foreign manufacturers and secured many government contracts. They were the first American manufacturers to light the Ambrose channel at New York harbor, one of the greatest harbors of the world. In the realm of illumination they became experts, prepared to handle any contract for illumination scientifically and expertly—from illuminating a house to seaport harbor work. Their factory at Charleroi, Pa., was devoted to the manufacture of illuminating glass entirely, the factory having twelve acres under roof, and employing 1,400 people. Other factories at Toledo, Ohio, Elwood and Marion, Ind., employed 4,000 people.

In politics, Mr. Macbeth was an Independent, and although all his life he was too busy to take any active part in public affairs, no one had a more earnest interest in everything pertaining to the welfare of the great city in which he wielded so commanding an influence. In all his endeavors for progress and improvement he stood forth as an able exponent of the spirit of the age, making wise use of his opportunities and wealth, and conforming his life to a high standard. He was a member of the Pittsburgh Club; Rowfant Club, of Cleveland, Ohio; Grolier Club, National Arts Club, Transportation Club, Reform Club, all of New York; and of the Engineers' Society of Western Pennsylvania. Mr. Macbeth was a director of the Carnegie Institute, being a life member of the original board of trustees. He was chairman of the library committee of the Carnegie Institute from its foundation. In religious belief he was a Swedenborgian.

Mr. Macbeth married, June 1, 1880, Kate Vodges Duff, daughter of George Duff, of Pittsburgh, of the old Pittsburgh family of this name, and a prominent dealer in wholesale hardware. Children: Anna Vodges, Helen Whitehill, and George Duff.

A man of action rather than words, Mr. Macbeth demonstrated his public spirit by actual achievement, which advanced incalculably the prosperity of the community. To the traditions of good citizenship and honorable public service, which have for generations been associated with the name of Macbeth, he added the record of a manufacturer who acquired an international reputation by causing industry to go hand in hand with science. His death occurred Feb. 11, 1916.

WILLIAM O'NEILL SHERMAN, M. D., one of the younger of Pittsburgh's distinguished surgeons, is a native of Schuylkill county, Pa., having been born at Pine Grove, the son of Luther Grove and Caroline (Behnn) Sherman. The elder Sherman, a veteran of the War of the Rebellion, is a merchant and broker, and has been prominent in Eastern Pennsylvania affairs for much more than a half century. His grandfather was a Revolutionary soldier. While still in his youth, Dr. Sherman removed with his parents to Lancaster, Pa., where the family continues to reside. The public schools of Lancaster, and Franklin and Marshall College equipped him for the preparatory study of medicine, and he was graduated from the Medical Department of the University of Pennsylvania, in the class of 1901, as a Doctor of Medicine. He was for a year an interne in the Western Pennsylvania Hospital at Pittsburgh, in which service he obtained wide experience in the vast varieties of surgical work performed in that institution.

Dr. Sherman went from the hospital into the practice of medicine and surgery, his attention being immediately attracted to the practice of industrial surgery, that is, the treatment of injuries sustained by factory and mill employee. He determined to specialize in this particular, and his intelligence and initiative very soon attracted general attention. Within a short time, he became chief surgeon of the Carnegie Steel Company, and he bent his energies to placing each one of the components of this company in the best possible relation to the immediate treatment of all emergency cases occurring in them.

Emergency hospitals, equipped with all modern paraphernalia and manned by graduate nurses and orderlies, all under the supervision of competent doctors, were installed as speedily as arrangements could be made, and before long the entire Carnegie system was in splendid organization. Dr. Sherman, himself, had a specially constructed operating room and clinic, equipped with the last word in utensils and sanitary prevision, installed in the new West Penn Hospital, Pittsburgh, which he had in charge himself, in connection with his staff of nurses and orderlies and assistant surgeons. Later he was elected to the staff of St. Francis' Hospital, and arranged to take a part of his many patients to that institution for treatment. He gives not a little of his time and attention to the many mills and local hospitals in the cities and towns of which the Carnegie plants are situated in order to keep in touch with affairs. The officials of the steel company very soon saw the vast advantages that this emergency work gave their employees, and that at the same time it reacted to the benefit of the organization in every particular. The officials have given the most efficient coöperation to Dr. Sherman in his suggestions for betterments of every nature until the ideals of the surgeon have been realized to date.

Through the courtesy of the Carnegie officials, Dr. Sherman spent six months on the battlefields in France and Belgium in the early and bloodiest days of the World War, and while there was in close contact with all movements tending to the quick and efficient methods of the emergency surgical corps that had been established at the front by the

Allies. He was at the front with Dr. Alexis Carrel of the Rockefeller Foundation, and was with him for some time both in observation and in accessory capacities. Dr. Pedro Chutro, another surgeon of international fame, was present on these occasions. After his return to America, Dr. Sherman addressed the staffs of hospitals, and medical and surgical associations, throughout the eastern and mid-western cities upon his observations and deductions while abroad, those specialists and those in charge of organizations being interested in the methods in use under conditions widely different from those theretofore employed in surgical history.

Dr. Sherman has had exceptional opportunities for observing not only industrial injuries, but in his general hospital practice all those of either ordinary or of extraordinary occurrence, together with their varieties of treatment, and he has volumes of notes and statistics consequent upon these operations, treatments, pre and post operative, and these have served to give him the data for the brochures, special articles and papers that he has read, and for the treatises he has prepared for publication in medical and surgical publications on both sides of the Atlantic. His surgical research has been as exhaustive and as thorough as his time allows and he has given much time to the psychological aspects of this science. He is also chief surgeon for many of the subsidiaries of the United States Steel Corporation, and the H. C. Frick Coke Company, supervising his work as it is performed by the several staffs under his charge.

Dr. Sherman is a member of the Masonic order, a member of the Duquesne and Pittsburgh clubs, and the Pittsburgh Athletic Association. He is a fellow of the American College of Surgeons; a member of the American Medical Association; Pennsylvania State Medical Society; Allegheny Medical Society; and the Pittsburgh Academy of Medicine.

Dr. Sherman married Lillian Johnson, of Jamestown, N. Y., daughter of Charles and Matilda (Brant) Johnson.

JOSHUA RHODES—Pittsburgh historians are as one in crediting to Joshua Rhodes a large share of the industrial genius, driving energy, and prophetic foresight that have resulted in the development of the natural resources and commercial possibilities of the region and that have created the metropolis of to-day. The active years of his life were filled with effort that beneficially reached a great number of Pittsburgh institutions and industries, and even when he had nominally retired from the world of affairs, the list of his official and advisory associations was far beyond the capacity of many men to administer.

Joshua Rhodes was born in Greenwich, England, March 19, 1824, and there his youth was spent, his parents coming to America with their family in 1830. Albany, N. Y., was their first home, later Buffalo, and in 1832 they settled in Allegheny, Pa., (Pittsburgh, North Side), their first residence on the site of East Park, their later home on Western avenue, Joshua Rhodes' residence throughout his long life.

Orphaned at the age of twelve years, he at once began to make his own way, and his subsequent record is full proof of his right to be known as a self-made man, whose success was won without favor or preference,

the logical result of his industry and innate abilities. His first employment was as errand boy in the grocery store of Benjamin Brown, where, until better opportunity offered, he swept the store, ran errands, and did many odd jobs. Habits of thrift had provided him with a small capital, and as a youth of twenty years, he invested this in a store of his own on First avenue, near Smithfield, a locality then considered far removed from the city's business district. When the historic fire of 1845 swept the city, his store was destroyed, as were the places of business of nearly all of Pittsburgh's merchants, large and small, and when he rebuilt, his building was the first to rise in the devastated district, at Fourth and Smithfield streets. When he resumed operations, he had changed his line of business, going from groceries to confectionery, his store the nucleus of the Reymer chain of the present, Mr. Rhodes and his partner disposing of their interests to Mr. Reymer.

For a short time after retiring from confectionery dealings, Mr. Rhodes was a ship chandler in New Orleans, La., soon returning North and forming connections with the firm of Jones & Gould, with whom he gained a reputation for business acumen and sagacity that caused his services to be sought by many commercial and financial organizations of the city. Among his operations of this period was the establishment of a wholesale baking business, and he was Pittsburgh's pioneer cracker manufacturer. A series of reverses overtook him at this point of his career and he met with practical failure in 1845. His courage and optimism survived continued misfortune and within a remarkably short time he had regained his former standing and stood again among the men heading progressive and constructive movements in the city. He was one of the first men of affairs of Pittsburgh to perceive the value of direct rail connections with the North and West, and was one of the builders of the Pittsburgh & Lake Erie railroad, giving a direct means of communication with the Great Lakes. Mr. Rhodes was the first president of this road, and his able leadership was responsible in no small measure for its early prosperity.

In 1877 he became identified with the branch of manufacture upon which his fame most securely rests by the purchase of the iron pipe mill on Herrs Island, built originally by Graff Brothers, and with Mr. Verner as his partner, began in a small way and by crude methods the making of iron pipe. The Crescent Tube Company mill at Soho came under his management, and this factory was refitted and equipped for iron pipe manufacture, and when production started in the new plant, the Herrs Island mill was abandoned. Business was conducted as the Pennsylvania Tube Works until 1900, when it became the great National Tube Company, which in turn became one of the subsidiaries of the vast United States Steel Company. Mr. Rhodes was chosen chairman of the executive committee of the National Tube Company, occupying that important place for a number of years and having general supervision of the many units of the controlling company. During the panic period of 1892 and 1893, Mr. Rhodes insisted upon the continuance of operations, thus furnishing employment to thousands, regardless of cost, although scores

of industrial plants of the Pittsburgh district lay idle. When general business was practically paralyzed, Mr. Rhodes was carrying out plans for expansion and was accumulating enormous stocks of finished products, with the result that when confidence had been again restored and money was once more in circulation his were almost the only mills in the country able to meet the demand for products in their lines.

Although he was conspicuously a "steel man," Mr. Rhodes gave of his capacity for labor and his tried talents to many outstanding organizations in the city. He had large holdings in street railways through his interest in the Citizens' Traction Company, and he later served as president of the Consolidated Traction Company. The Citizens' Traction Company was formed in 1860 to rehabilitate the one horse-car line then affording the only means of transportation to the junction of Penn avenue and Butler street. Mr. Rhodes was also a factor in the extension of street railway service into the East End, and was extensively interested in the Pittsburgh, Allegheny & Manchester line. He also was financially connected with the Duquesne Traction Company, the Fort Pitt Traction Company, the Transverse Passenger Railway, and the Allegheny Traction Company, all of which were afterward consolidated. Among his official relations with financial institutions of the city was his presidency of the old Allegheny National Bank, and as vice-president of the ——— Point and Union Bridge companies, he was instrumental in providing the city with more adequate bridge facilities. In his later years, Mr. Rhodes withdrew from many of the organizations he had served so faithfully and with such conspicuous success, but retained a place upon the directorates of a large number of Pittsburgh concerns, including the Allegheny Heating Company, the Suburban Rapid Transit Company, the Keystone National Bank, the Colonial Trust Company, the Bessemer Coke Company, the American Window Glass Company, the Columbia National Bank, and the Pittsburgh Railways Company.

Mr. Rhodes was one of the founders of the Republican party, having, as a Whig, cast his first vote for Henry Clay. Public office had no attractions for him, and his work for the common welfare could not have been greater or better appreciated had he held the prominent place he occupied as the direct gift of the people. He was a Mason of long standing, and was for many years a member of the Ridge Avenue United Presbyterian Church, and a member of the Duquesne and Pittsburgh clubs.

Joshua Rhodes married Eliza Haslett, and they were the parents of: William Bagley, Mary, Anna, and Joshua W., deceased. Mr. Rhodes died Jan. 5, 1909, after a life whose value is beyond estimation, whose work went into the very blood and bone of the city of Pittsburgh.

WILLIAM HUGHEY BROWN was associated with important coal and coke interests, as shipper and operator, for many years. As his means and influence had increased, he had widened his interests to include numerous business and industrial organizations of the district, but upon coal his career and fortune were founded and he is inseparably



Wm J. Brown

linked with the history of its production and transportation. To the same field of endeavor he gave four sons, and in the family name a long and honorable record has been compiled, influencing for good not only this business but many other relations of life.

William Hughey Brown was born in North Huntingdon township, Westmoreland county, Pa., Jan. 15, 1815, and was educated in the public schools in the neighborhood of his home. His first employment was on the canal, and he subsequently worked at farming in summer and dug coal in the winter months. His earnings were carefully saved and finally were invested in a horse and wagon, with which equipment he began his lifelong career in coal dealings. Prosperity attended his venture and within a comparatively short time there were in his employ a number of men and teams bringing the supply of coal to the Pittsburgh furnaces. In 1845-6 he began floating coal in flat-boats down the Monongahela river and a short time afterward he and other Pittsburgh operators purchased a mine in the second pool of the Monongahela river. His partnership with Alexander Miller and George Black, owners of the Kensington Iron Works, was formed in 1848, these gentlemen being also interested with him in coal mines at Nine Mile Run, on the Monongahela, and in coking ovens. Of this latter branch of their business Mr. Brown had entire charge, and his department was built up into a most profitable enterprise. The greater part of their trade was with Pittsburgh manufacturers, but the surplus was disposed of at Cincinnati and Louisville, and a business of vast volume resulted. His personal reputation as a leader in coal operations grew with the business of which he was the head, and he became known as one of the most able producers and shippers of the region, a man whose energy brooked no setback, who rarely fell short of the goal to which he aspired.

New expansion came in 1854-5, with the purchase of the steamer, "Walter Forward," and in the following year he purchased a one-half interest in the steamer "Tempest." The "General Larimer" was added in 1858, and he began the shipment of coal in boats to New Orleans. Previously, coal had been shipped to the South in barges, a class of large keel boats, but the expense of such transportation had made the method unprofitable. Mr. Brown's steamers operated on a paying basis, and that system was widely adopted in the trade. The first shipment was twelve boats, carrying 230,000 bushels of coal, with the steamer "Grampus" on one side and the "General Larimer" on the other, the flotilla in charge of Mr. Brown's son, Captain Samuel S. Brown. All expectations were exceeded in the success of the experiment, and through this new outlet for Pittsburgh coal a steadily increasing tonnage poured. Other steamers, the "W. H. B.," "Bee," "Collier," and "Shark," were added to the fleet to meet the demands from the South, and Mr. Brown, through operations of great magnitude, maintained his place of leadership on the rivers.

During the Civil War, Mr. Brown had important contracts with the government to supply coal at Cairo, Memphis, and Pittsburgh, and at the same time began supplying St. Louis with coal for the gas works.

A large degree of danger attended coal traffic on the rivers during the Civil War, and while fulfilling his private and government contracts, Mr. Brown had many narrow escapes and became involved in delicate complications, from all of which he emerged with honor. It was during this period that the firm of Brown & Jones, composed of William H. Brown and N. M. Jones, was organized, the association continuing until Mr. Brown's death in 1875. During the latter years of his life Mr. Brown acquired holdings in many enterprises whose success promised benefit to the district with which he had been so long identified, and his sound judgment and long acquaintance with local conditions enabled him to make valuable contributions to their welfare. Those who knew Mr. Brown are authority for the statement that his outstanding characteristic was his accuracy in the analysis of human nature, his almost intuitive appreciation of men, their standards, and their motives, and this keenness of perception was an invaluable asset in business dealings. He was a man of scrupulous integrity, wedded to high ideals and staunch in their defence.

William H. Brown married, Sept. 3, 1840, Mary Smith, daughter of Samuel and Elizabeth Smith, of Minersville, Pa. Mrs. Brown, whose cultured tastes and fine sensibilities became the heritage of her children, died Aug. 9, 1868, having for more than a quarter of a century stood at her husband's side, his constant companion and helper along life's journey. Children: Elizabeth Smith, who married James Ward, Jr.; Samuel Smith; James Herron, who died in 1882; Mary Oliver; Alice Winders; William Hughey; Charles Smith; and W. Harry, a sketch of whom follows. William H. Brown died Oct. 12, 1875.

W. HARRY BROWN—Pittsburgh business circles of the present had as one of their most honored members W. Harry Brown, and prominent position in the world of affairs was his until death claimed him, April 28, 1921. He had retired two years before from most of his important associations, but one cannot retire at will from such a place as Mr. Brown held in the life of the city, and his presence, his opinions, and his influence bore as great weight as when his name appeared in a long list of official connections. W. Harry Brown represented in Pittsburgh a splendid type of progressive, successful business man, whose worth could not be estimated in material terms and whose work for his day and time reached far beyond the affairs that came to his office desk. That man combines in his character a large share of the elements of true greatness whose good works are fully revealed only when his own simplicity and humbleness no longer stand guard to keep them his alone, and such was true of Mr. Brown.

W. Harry Brown, youngest of the eight children of William H. and Mary (Smith) Brown, was born at Brown's Station, Pa., Aug. 11, 1856. He enjoyed excellent educational advantages, including attendance at Ayres Latin School, Duff's Business College, Allegheny College at Meadville, Pa., and the Pennsylvania Military College, at Chester, Pa. While a student in the last-named institution, he was first sergeant of



Mr. Harry Brown

the second company of cadets of the college, who acted as escort for General Grant and the presidential party on May 10, 1876, at the Philadelphia Centennial Exposition. Upon his return to Pittsburgh soon after the death of his father, Mr. Brown participated in the reorganization of the firm of Brown & Jones, in which his father had been a partner, and the coal business which they had conducted (see William H. Brown sketch preceding) was continued under the name of W. H. Brown Sons & N. M. Jones. This firm was dissolved in 1897.

After the death of William H. Brown in 1875, the firm of W. H. Brown Sons was organized, its members: Captain Samuel S. Brown, James H. Brown, Charles S. Brown, and W. Harry Brown. At the time of the death of James H. Brown in 1882, Captain Samuel S. and W. Harry Brown purchased the interest of the other brother, Charles S., and when the Monongahela Consolidated Coal and Coke Company was formed in 1899, the business was sold to that corporation.

During this period, in addition to his connection with the family interests, Mr. Brown had become a member of the firm of Brown & Cochran, and was one of the organizers of the Washington Coal and Coke Company and the Washington Run Railroad Company. He was vice-president of the former and president of the latter company until the spring of 1919, when he disposed of his more important interests and retired from active life. The Washington Coal and Coke Company owned mines and coke ovens, operating 1,000 ovens with a daily output of 6,000 tons. Mr. Brown is credited with the pioneer's part in the use of steel barges for the coal carrying trade, and devised and perfected a crane for transferring coal from barges to vessels that is now in general use. He held a captain's license, was skilled in navigation, and had interests in eastern coast-wise coal-carrying vessels. He was an alert, progressive business man, given to careful thought and decisive action. A more upright man never lived, and his word held weight equal with a signed document in even the largest affairs. Into the business world, with all its pressure and impersonal coldness, he brought a warm humanity and an unfailing consideration for the rights and welfare of others, and nothing so quickly won his recognition in substantial form as faithful service in an employee, regardless of capacity. Many men now holding responsible positions owe their early opportunities to Mr. Brown's friendly, kindly proffered assistance.

For one term he was a member of the Pittsburgh Council, an office that came to him unsolicited and that was accepted because he believed it his duty to give whatever service was within his power. His private charities were many and were always performed quietly, known only to him and to the beneficiary. His death disclosed many gifts wisely and generously bestowed, the expression of a sense of stewardship and brotherhood that in many forms was a guiding influence throughout his life. To his family he was the personification of lavish generosity, counting no effort too great for their happiness, no service so arduous as to be unreasonable if for their best good, no gift adequate to express his tender love.

Mr. Brown was an ardent sportsman, and in yachting found a most enjoyable recreation. He was a member of the Duquesne, Union, and Pittsburgh Country clubs, the Pittsburgh Athletic Association, the New York Yacht Club, of New York, also the Adirondack League Club of New York, and the American Universities Club, of London. In the Masonic order he held the thirty-second degree, and was to have received the thirty-third degree in September, 1921. He was also a member of Syria Temple, Ancient Arabic Order Nobles of the Mystic Shrine. He was a trustee of the Third Presbyterian Church and brought to its affairs the experience of years in business.

W. Harry Brown married, Nov. 25, 1890, Margaret Boyle, daughter of John Dawson and Mary F. (Halsted) Boyle (q. v.). He is survived by his wife, a daughter, Mrs. Charles A. Painter, Jr., and a son, W. Harry, Jr.

W. Harry Brown's death occurred April 28, 1921. On July 4th, following, there was laid at Elizabethtown, Pa., the cornerstone of the Industrial Home for Boys, for orphan and dependent sons of members of the Masonic order. This splendid philanthropy, made possible through his wisely bestowed generosity, will come into its full usefulness in the near future, and although W. Harry Brown has passed from personal touch with its work, the service that it will daily render will stand as a symbol of his unselfish, fruitful life.

JOHN DAWSON BOYLE—The latter half of the nineteenth century was the period of the active work of John Dawson Boyle, for many years a resident of Pittsburgh and a conspicuous figure in Pennsylvania industry. The manufacture of coke was his principal interest, although he was well known in journalism and was financially connected with numerous industrial and business enterprises. New recognition is here given to his valued practical achievements, and fresh tribute to his worth as a citizen and as a man.

Mr. Boyle was a descendant of Irish ancestry, the family having borne arms as follows:

Arms—Or, an oak tree eradicated vert.

Crest—A sword, point upwards proper, and a passion cross or, in saltire, surmounted of a heart gules.

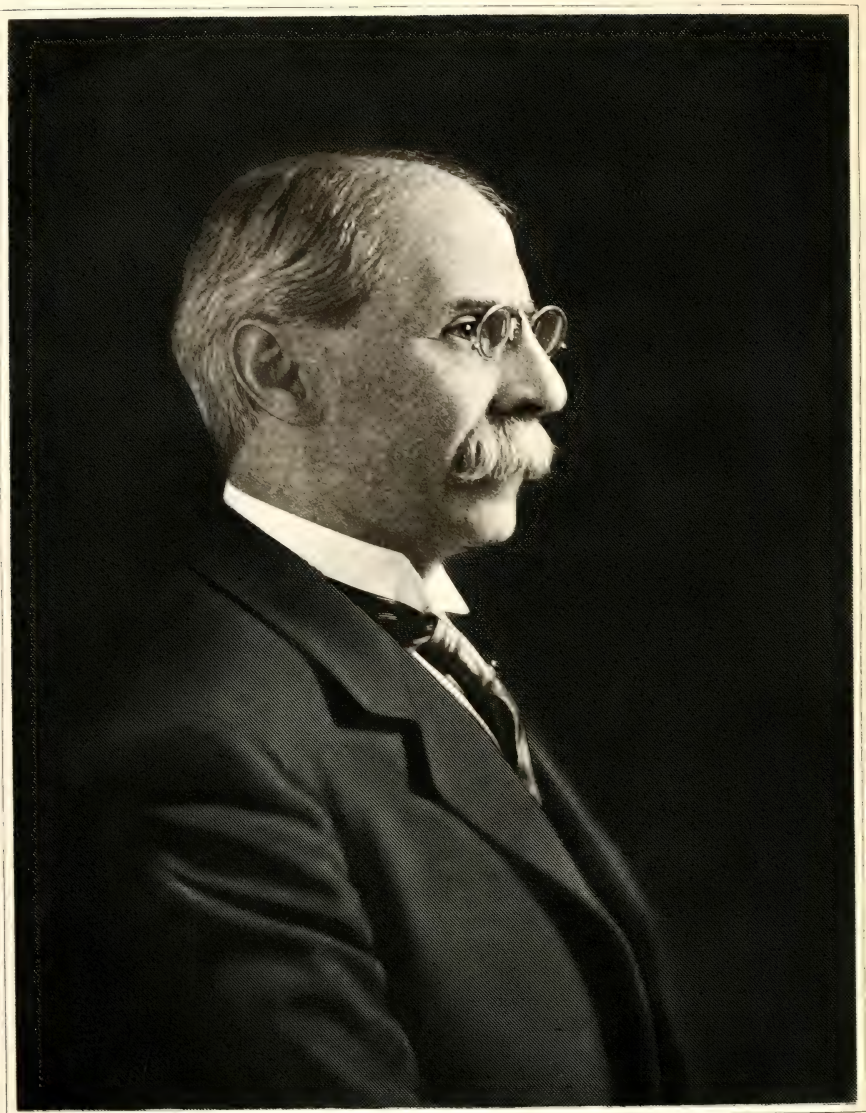
Mottoes—*Vivit post funera virtus.* (Virtue survives the grave). *Dominus providebit.* (The Lord will provide).

Mr. Boyle was a son of Bernard and Evelyn (Hendrickson) Boyle, and grandson of Bernard Boyle, who came to the United States from County Cork, Ireland, just after the Revolutionary War and who fought in the Mexican War. Bernard Boyle, father of John Dawson Boyle, accompanied his father to the United States.

John Dawson Boyle was born in Fayette county, Pa., April 9, 1832, and was educated in the public schools. In young manhood he became associated with his brother, Judge Charles E. Boyle, in the publishing business, a calling for which he had natural aptitude and in which he gained commendable success. For many years he was the owner of the newspaper, "Genius of Liberty," published at Uniontown, Pa. He took



John D. Boyce



R. W. Frazier

R. W. GRAND MASTER

1910 — 1911

up his residence in Washington, Pa., and there became an influential factor in public affairs and served the community efficiently and faithfully as mayor.

At a later period of his life, Mr. Boyle entered the coal industry and in Westmoreland county conducted operations on a large scale, opening new lands and developing them to a high point of production. He was a pioneer in the coke manufacturing industry in the Connellsville region, and in the formation of industrial plans and their direction to a prosperous consummation he proved himself the equal of the most brilliant of his associates. With Mr. Samuel Hazlett, a banker of Washington, Pa., under the firm name of Boyle & Hazlett, he built the first coke ovens in Westmoreland county, located at Mount Pleasant. He combined in his mental composition all of the requisites of the successful man-of-affairs, and his forceful energy, strong grasp of economic fundamentals, and unflinching courage compelled the fortunate outcome of enterprises whose scope placed them beyond the powers of men of smaller capacity. About twenty years prior to his death he retired from active business to a well earned and needed rest.

Mr. Boyle was a member of Hailman Lodge, No. 321, Free and Accepted Masons. He did not save fraternal feelings and actions for the lodge room, but in every relation of life was known for fairness, for uprightness, and for his willingness to extend sympathy and aid to his fellows. His life was busy, charged with the energy of constructive effort, of enduring accomplishment.

Mr. Boyle married, Oct. 6, 1859, Mary Frances Halsted, daughter of Robert H. and Amy Jane (Bond) Halsted, the Halsteds a family of Colonial New York, the Bonds of early Maryland record. Children: Robert H., a resident of Seattle, Washington; John Edmund, a resident of North Yakima, Washington; Margaret, married W. Harry Brown (q. v.); Adelaide, married Edward H. Brainard; and Hetty Beatty, who married (first) Charles D. Callery (deceased), (second) Louis K. Hyde, of Plainfield, N. J. Mrs. Boyle was a graduate of Steubenville Seminary, an excellent musician, and a wife and mother from whom radiated cheer and thoughtfulness and happiness. She died Dec. 8, 1911. John Dawson Boyle survived his loyal helpmate of fifty-two years but a few years, his death occurring March 25, 1915. The memories are enshrined in the hearts of their children and are the treasured possessions of their many friends.

GEORGE WILKINS GUTHRIE—Great as is the value of the natural resources of the Pittsburgh region, it is in her citizens rather than in her coal and iron and gas that she has been most richly blessed. Men of large abilities and long vision, who build for their own and for future generations, render inestimable service, and in this country, as in no other, is it true that he who gives of his ability to the up-building and improving of municipal life places a healing hand upon the sick spot of the life of the nation. Such a contribution has been the life of George Wilkins Guthrie, and as his many friends in this country and in Japan

sorrowed for the passing of so richly useful a life, there was consolation in the certain knowledge that much of his work would continue to live and grow. As statesman, philanthropist, mayor, leader of professional and public life of his city, and finally, as United States Ambassador to Japan, abilities inherited through a long line of worthy ancestors found full scope and demonstrated the value of Scotch solidity and uprightness blended with the intuition, imagination, and warmth of nature of the Irish race.

George Wilkins Guthrie was descended through both his parents from the forceful and valiant Scotch-Irish stock, John Guthrie, a great-grandfather, having been the first of the family to settle in Pennsylvania, he serving during the struggle for independence as an officer in the Continental army. His son, James V., a boat-builder, went to Pittsburgh during the early part of the eighteenth century, married Martha, a daughter of John Brandon, a captain in the Revolutionary army, and became the father of John Brandon Guthrie, the father of George W. Guthrie.

John Brandon Guthrie, born July 26, 1807, in Armstrong county, Pennsylvania, was a boy when the family moved to Pittsburgh and he became one of the prominent men of the city, holding positions of honor and trust, including that of mayor, in which capacity he served two terms. He was also a member of the Constitutional Convention of 1872-73. He married Catherine S. Murray, daughter of Magnus M. Murray, and granddaughter of the famous Commodore Murray, whose ancestors came from Scotland to the colonies in 1715. Magnus M. Murray came to Pittsburgh in 1807, and was a prominent lawyer and a progressive business man, being a promoter of one of the first rolling mills built in Western Pennsylvania. He served with ability and distinction as mayor of Pittsburgh, and died in July, 1885, leaving behind him a clean record as a keen man-of-affairs and an upright public official. Thus George Wilkins Guthrie was preceded by both his father and his maternal grandfather in the office of chief executive of the city of Pittsburgh.

George W. Guthrie, son of John Brandon and Catherine S. (Murray) Guthrie, was born Sept. 5, 1848, in Pittsburgh, where he attended the public schools and then went to the University of Western Pennsylvania (now the University of Pittsburgh), graduating with the class of 1866. He then studied law in the office of Hon. Robert J. Walker, of Washington, D. C., later entering the Law Department of Columbian College (now George Washington University), graduating in 1869. Being admitted the same year to the Washington bar and to the bar of Allegheny county, he began at once the building of a general practice which steadily grew until it was one of the largest and most successful in the city. For a short time Mr. Guthrie was in partnership with Colonel James K. Kerr, under the firm name, Kerr & Guthrie, in the one-story building on Diamond street, on ground where the court house now stands, near the old buildings of the University of Pittsburgh. Later, he formed a partnership with Hon. Malcolm Hay, builder of the Guthrie building, situated on Diamond street. He has long been recognized as a leader in his profes-

sion, but it is as leader of the National Municipal League that some of his most valuable work was done. Interested in the conduct of municipal affairs, and understanding clearly the odious comparisons that can honestly be made between city governments in this country and the management of affairs in foreign cities, he set himself the task of aiding in the healing of this diseased part of our national life. He drafted many laws for the regulation of first and second class cities and used every opportunity to arouse intelligent interest in securing better city government. Thus he was unusually well prepared to fill the office to which he was elected in 1906, that of first executive of the city of Pittsburgh. He was one of the leaders in the Greater Pittsburgh movement, and joint author of the act consolidating the cities of Allegheny and Pittsburgh. His fight to compel the public service corporations to pay to the city taxes, license fees, and various other obligations provided for in their charters, gained for the city in one year more than a half million of dollars and assured an additional annual income of over \$150,000. Always an advocate of pure water, he was largely instrumental in the development of the city's present splendid water system. His election, in 1906, was secured by the largest vote ever polled in the city, and the record of his administration fully justifies the confidence placed in him by his fellow-citizens.

Politically, Mr. Guthrie was a Democrat, and influential in national affairs of the party. In 1908 he was elected an honorary member of the Pittsburgh Chamber of Commerce, and later became a member of its board. He was identified with a number of civic bodies having for their object the promotion of the welfare of Pittsburgh, and was always ready to aid worthy charitable or religious enterprises. The high ideals of Mr. Guthrie for municipal administration are best revealed in his own words, uttered before his election as mayor—and fully vindicated during his administration:

No man is fit to be mayor of this great city who will prostitute the powers belonging to that office to any use or purpose except advancement of the interests of the community. I will have, if called upon to fill that office, no purpose to build up an organization or party or to strengthen any set of men in power. The powers of the city belong to the whole people of the city. The officers of the city are the servants of the people, and they must be faithful to the whole people and obedient to the laws which they are themselves called upon to enforce and to administer.

In 1910, following the gubernatorial election, he was associated with and leader in the movement to reorganize the Democratic party in Pennsylvania, and served as State chairman during this period. In 1912 he headed the Pennsylvania delegation to the Democratic National Convention that nominated Woodrow Wilson for the presidency, and took a very active part in securing that nomination. His long and able participation in party councils, and his broad knowledge of world affairs, made him a well-qualified candidate for diplomatic service, and in May, 1913, he was appointed United States Ambassador to Tokio, Japan. The following month he sailed, and from that time until his death, March 8, 1917, ably filled that responsible position. His sudden death, of apoplexy, came as a

great shock to his friends, as he had seemed to be in the best of health and had visited Pittsburgh in 1915, expressing the greatest delight in his work in Japan, and had seemed to be in unusually good health. The government of Japan sent him home in a warship, an unusual honor, and his funeral was one of the most impressive events of its kind in the history of Pittsburgh.

Mr. Guthrie belonged to the Pennsylvania Society of the Sons of the American Revolution, and was a member of the Pittsburgh Club, of the Pittsburgh Golf Club, of the Duquesne Club, and of the University Club of New York City. He was for many years attorney and later vice-president and trustee of the Dollar Savings Bank. The degree LL. D. was conferred upon him by the University of Pittsburgh, and by Trinity College, of Hartford, Conn. He was also a member of the board of managers of the Kingsley House Association, of the Children's Hospital, and a member of the board and president of St. Margaret's Hospital.

The highest honors within the power of the Free and Accepted Masons were conferred upon George Wilkins Guthrie. He received the Blue Lodge degrees at Pittsburgh, Franklin Lodge, No. 221, Free and Accepted Masons, in 1873 (Entered Apprentice, September, Fellow Craft, November, and Master Mason, December), serving this lodge as Junior Warden, 1878, Senior Warden, 1879, Worshipful Master, 1880; served the Grand Lodge of Pennsylvania as Right Worshipful Junior Grand Warden, 1905, Right Worshipful Senior Warden, 1906-07, Right Worshipful Deputy Grand Master, 1908-09, Right Worshipful Grand Master, 1910-11, and at the time of death was Past Right Worshipful Master. Received the Royal Arch degrees, Shiloh Chapter, No. 257, Royal Arch Masons, of Pennsylvania; Mark Master, Most Excellent Master and Royal Arch Mason in 1877; served as Principal Sojourner, 1878; Constituted Life Member, 1905. Received the Cryptic degrees "at sight" in Mount Moriah Council, No. 2, Royal and Select Masters, of Pennsylvania, in 1909. Received the degrees of the Commandery in Tancred Commandery, No. 48, Knights Templar, Pennsylvania; Red Cross and Temple, 1905; Malta, 1906. Received the degrees of the Ancient Accepted Scottish Rite to the thirty-second in Gourgas Lodge of Perfection, fourth to fourteenth, September, 1874; in Pennsylvania Council, Princes of Jerusalem, degrees fifteenth and sixteenth, October, 1874; in Pittsburgh Chapter of Rose Croix, degrees seventeenth and eighteenth, November, 1874; in Pennsylvania Consistory, degrees nineteenth to thirty-second, December, 1874. He served Gourgas Lodge of Perfection as Junior Grand Warden, 1875; Thrice Potent Grand Master, 1876-78; Grand Orator, 1881; and at the time of his death was Senior Past Thrice Potent Master. He served Pittsburgh Chapter of Rose Croix, as Captain of the Guard, 1875; Grand Orator, 1877 to 1882; Most Wise and Perfect Master, 1889 to 1896. He received the thirty-third degree in the Supreme Council at Boston, September, 1885, and was crowned an Active Member in the Supreme Council, September, 1895.

Mr. Guthrie was a member of the American Institute of Social

Science, and of the Church Club of the Diocese of Pittsburgh, and a vestryman of Calvary Episcopal Church.

Mr. Guthrie married, Dec. 2, 1886, Florence J. Howe, daughter of the late Hon. Thomas M. and Mary Ann (Palmer) Howe, (q. v.), of Pittsburgh. Mrs. Guthrie is a member of the Art Society of Pittsburgh, and of the Twentieth Century Club, and the Pittsburgh Golf Club.

All flags of the city flying at half-mast, sincere expressions of sorrow and regret from all classes of men, and honors paid by the Japanese government, in some slight measure, expressed recognition of the truly great service rendered by the life of George Wilkins Guthrie, but not until the still living and growing influences of his life have accomplished their full mission can even the recording angel evaluate the service rendered. Viscount Tamura, who represented Japan as special envoy, said in part:

I express the sympathy at the death of Ambassador Guthrie, not alone of myself, but of the Japanese people, to your countrymen and especially to the people of Pittsburgh. All my countrymen have the most profound sympathy for you in your great loss. I have accompanied the body from my home, bearing the expressions of the friendship of all my countrymen to all Americans. I bring the heart of Japan to the heart of America, and will truly say that our love for you is as warm as when Commodore Perry opened the soul of your country to the needs of ours. Your Mr. Guthrie was so honest and straight that he is the one model of American manhood now being imitated by the young men of Japan.

THOMAS M. HOWE—To write the list of Pittsburgh institutions, financial, industrial, civic, educational, religious, or philanthropic, with which Thomas M. Howe was associated in executive or advisory capacity, is to name a large proportion of those whose influence and prestige have extended over the half century that has elapsed since the years of his activity. The work of few men in Pittsburgh's history has been more diversified or of greater permanent value, and Pittsburgh of the present benefits heavily through his unselfish, public-spirited service.

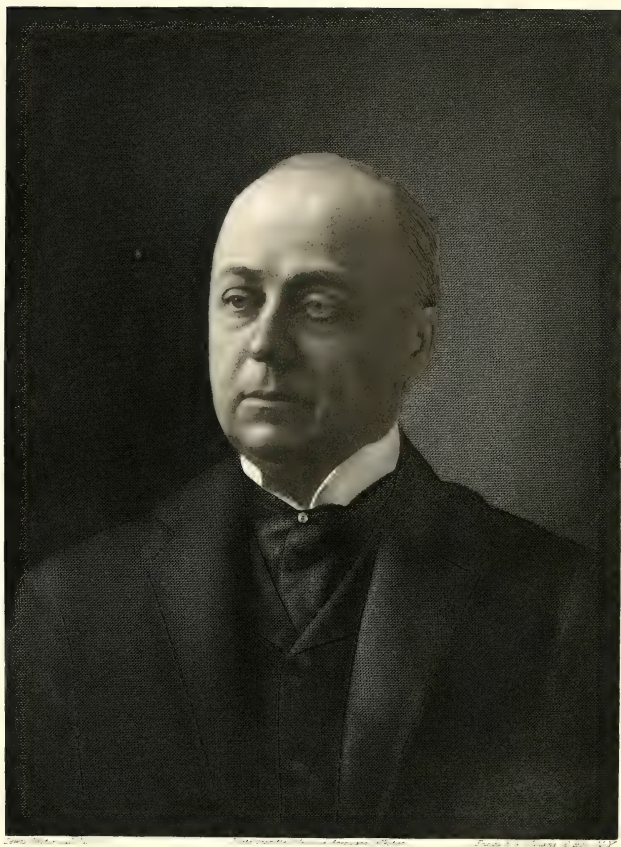
Thomas M. Howe was a direct descendant of John Howe, who came to New England in 1638, settling in Sudbury, Mass., and a son of Thomas Howe. Thomas Howe was a native of Westmoreland, N. H., and in 1800 moved to Williamstown, Vt. He married, Jan. 1, 1806, Clarissa Howard, born in Windham, Conn., and when their son, Thomas M., was nine years of age, Bloomfield, Ohio, became the family home. Thomas Howe became one of the leading citizens of that section of the State and served several terms in the Ohio Legislature.

Thomas M. Howe was born in Williamstown, Vt., April 20, 1808, and after the family moved to Ohio, pursued classical courses in Warren Academy, of Bloomfield. He came to Pittsburgh in 1829 and became a clerk in the pioneer wholesale dry goods house of Mason & McDonough, at a salary of \$350 per annum. Later he was employed by S. Baird & Company, and even at that early day realizing the future in manufacturing that awaited Pittsburgh, made plans for operations on a larger scale. In 1833 he was admitted to partnership in Leavitt & Company, hardware, and subsequently he became a member of the firm of Wallace,

Howe & Company. From this time on his business connections rapidly increased in number and importance, and his influence spread into all branches of the city life, religious and philanthropic movements especially receiving a large share of his attention and time. Ten years after coming to Pittsburgh he was elected cashier of the Exchange Bank, filling this office with signal success during the unsettled financial conditions from 1840 to 1845. In 1851 he was elected president of the Exchange Bank, but resigned a few years later because of the pressure of private affairs. Mr. Howe was also one of the founders of one of Pittsburgh's proudest institutions, the Chamber of Commerce, and served as its president continuously until his death in 1877.

Mr. Howe was a pioneer in the Lake Superior copper mining industry as early as 1840, being one of the organizers of the Pittsburgh & Boston Mining Company, of which he was the first secretary and treasurer, disposing of his interests in this enterprise in 1871 for a large sum. Mr. Howe was an organizer of the copper manufacturing company, C. G. Hussey & Company, and performed the same service in connection with Hussey, Wells & Company, which afterward became Hussey, Howe & Company, and still later Howe, Brown & Company, Ltd. He was also one of the builders of the Cleveland & Pittsburgh railroad, and was one of the leaders in the Monongahela slack water improvement, embracing the system of locks and dams from Brownsville to the Ohio river. His name is connected closely with another of the historic institutions of the district, Allegheny Cemetery. When, in 1844, it became necessary to provide larger cemetery facilities he was one of the founders of what has developed into one of America's most beautiful burial places. Associated with Richard Biddle, the first president, Charles Avery, Thomas Bakewell, John H. Schoenberger, James R. Spear, Wilson McCandles, and Thomas Bingham as the first board of managers, he was subsequently chosen president and served in this office for more than thirty years.

Throughout all the period of his greatest practical achievement Mr. Howe was vitally interested and active in political and public matters. He was one of the country's first protectionists, and supported General Harrison in 1840. A deep student of political tendencies in the national and local aspects, he became the leader of the Whig party in his district, whence he was elected to Congress in 1850 and reelected in 1852. To the founding of the Republican party he gave his best thought and effort, and in 1860 was a presidential elector and one of Abraham Lincoln's strongest adherents. He came within a narrow margin of being war governor of Pennsylvania, being defeated by Governor Curtin for the nomination by a scant majority. Mr. Howe proved the quality of his loyalty and manhood by becoming one of his successful opponent's most ardent supporters and was appointed to the governor's staff as Assistant Adjutant General. There was strong sentiment in his favor for the office of State Treasurer in 1864, but he declined the nomination, and in 1874 he was suggested in influential circles for United States Secretary of the Treasury, again refusing to run for the office.



Philander C. Kner

Mr. Howe's service was of conspicuous value during the Civil War as chairman of the Allegheny County Committee in charge of recruiting and other war work. He enjoyed the intimate personal friendship of President Lincoln and Secretary of War Stanton and was frequently called into council at Washington during the dark and troubled days of the war. While he deplored the conflict and the enmity and bloodshed it engendered, he never faltered in his conviction that it was the duty of all conscientious, patriotic citizens to uphold the Constitution and the union of states. Mr. Howe was for many years a member and vestryman of the old Trinity Protestant Episcopal Church, and later warden and vestryman of Calvary Church. He was likewise for a long period a member of the standing diocesan committee, twice deputy to the general convention, and a regular, generous supporter of philanthropic and charitable work within and without the church.

Thomas M. Howe married, Dec. 13, 1833, Mary Ann Palmer, daughter of Rev. Anthony A. and Mary (Bryan) Palmer, and they were the parents of fourteen children, of whom only three survive: Mrs. James W. Brown; Mrs. George W. Guthrie (q. v.); and George A.

The Howe family home was the beautiful East End estate, "Greystone." The erection of the mansion was begun just prior to the beginning of the Civil War, and the rapid advance in labor and materials meant the ruin of the contractor in charge of the work. Learning of his predicament, Mr. Howe sent for him and said, "figure out what you expected to make on the contract." The contractor did so. "Now," directed Mr. Howe, "bring me all the bills for stone and labor and I will pay them. In addition thereto I will also pay you the sum you expected to make." The explanation he made of this generous act is an index to his upright, honorable, considerate nature, for he said that he could never have found a moment's happiness in a house that had been the ruin of another man. At "Greystone" his daughters grew to young womanhood and after their marriages built their own homes on the "Greystone" estate, so that there are still nine children, grandchildren, and great-grandchildren living on the original acres.

Thomas M. Howe died in Pittsburgh, July 20, 1877. Howe Spring, one of the landmarks of Fifth avenue's exclusive residential section, was erected in memory of Mr. and Mrs. Howe. To pen the record of his distinguished service to his time is to place before the generations that follow him a chart and compass to paths of integrity, honor, and usefulness; to read it is to receive inspiration to nobler endeavor toward a higher goal.

PHILANDER CHASE KNOX—In a proclamation announcing the death of Philander Chase Knox, United States Senator from Pennsylvania, the president of the United States, said:

In his death, his State has lost a valuable and faithful servant, and his country one of its greatest Statesmen. His good judgment, his wise discrimination and keen perception eminently fitted him for the legal profession. Admitted to the bar in 1875, he early

became recognized as one of the foremost lawyers of his State. Twice honored by the Commonwealth of Pennsylvania by election to the Senate of the United States, he took by his wise counsel a prominent part in the framing of our laws and in the direction of our foreign policy. As Attorney-General of the United States, he rendered opinions noted for their legal ability. As Secretary of State, while guided by the principle to deal justly with all nations, his conduct of our foreign affairs was ever marked by a devotion to the best interests of his country. His private life was characterized by virtue worthy of emulation by all American citizens.

A member of the Cabinet under three presidents (Attorney General under two, Secretary of State under one), Senator Knox rendered the American people great service by curbing corporations, contributing toward the building of a great canal, and in 1904 lending his legal talent to aid the Progressive cause. He delivered quite the ablest speech against the League of Nations that the debate in the Senate produced, and he strongly denounced the terms of the Treaty of Versailles. He was the lawyer in politics, keen of mind and sincere, a competent lawyer serving well his client, whether that client was the administration, the party, or a senatorial group. He was an intimate personal friend of President Harding, with whom he served in the Senate.

He was aristocratic in bearing, yet always courteous and considerate. He had close friends of whom he was fond and whom he liked to have around him, but he was always reserved, invariably dignified. Valley Forge, Pa., drew him often from the Capital. His legal residence was Pittsburgh, Pa., and there he laid the foundation for his later successes in diplomacy and statecraft. But Valley Forge he loved, going there oftener and oftener, and there on his estate, amid the books and surrounded by members of his family, he best loved to be, visiting Pittsburgh seldom in recent years. A room in the mansion there is lined with books, many of them rare editions and odd books of which he possessed thousands of volumes. The room at Valley Forge has a great open fireplace at one end, and a balcony running around the book shelves reaching from floor to ceiling. He died at his home in Washington on K street, and is buried in the Memorial Chapel Cemetery at Valley Forge.

Philander Chase Knox, named after Rt. Rev. Philander Chase, the renowned Episcopal Bishop, was born in Brownsville, Fayette county, Pa., May 6, 1853, and died in the City of Washington, D. C., Oct. 12, 1921, death coming suddenly from a stroke of apoplexy. He was a son of David S. and Rebekah (Page) Knox, and was given the best of educational advantages then possible for his parents to give. He was of Scotch-Irish descent, the youngest of six sons born to his parents. His father, at the time of the birth of his son, Philander C., was cashier of the Monongahela Bank of Brownsville. He attended school at Morgantown, W. Va., and at the age of sixteen he entered Mount Alliance (Ohio) Union College, whence he was graduated in 1872 at the age of nineteen. He carried out a youthful ambition and studied law under H. B. Swope, was admitted to the Allegheny county bar in 1875, and the next year was appointed assistant United States attorney for the district of Western Pennsylvania by President Grant. This field was too narrow for his

ambitions, and he resigned his office after a year's service to become a partner with James H. Reed in the law firm of Knox & Reed, and in a brief time the firm had acquired an important and lucrative law business in Western Pennsylvania. In 1897 President McKinley tendered to him the attorney-general's portfolio, an offer which Mr. Knox declined because he was unwilling to make so great a financial sacrifice as the position would demand. In April, 1901, President McKinley again offered to Mr. Knox the position of attorney-general, which he accepted, and was retained when Mr. Roosevelt succeeded to the presidency. His office had come to be of tremendous importance, the entire people seeming to have arisen against the trusts and freight rate discriminations. As attorney-general he established a record for prosecutions of trusts and combinations and in actions against railroads to prevent rebates and discrimination in rates.

Notable among his achievements while in this office was his suit against the Northern Securities Company, a corporation organized for the purpose of combining the Northern Pacific and Great Northern railroads. He brought the Government action to dissolve the merger, and after a long legal fight, beginning in 1902, he won the case in the United States Circuit Court. Mr. Knox also waged a notable fight against the combination of seven beef corporations, against whom he brought action in the year 1902, charging them with being in conspiracy in restraint of trade. He obtained injunctions against the defendants which were made permanent on appeal to the United States Supreme Court, and the combination was ordered to be dissolved.

Soon after Mr. Knox instituted proceedings against fourteen railroad corporations, charging them with being in combination in restraint of trade, and finally won all the suits. His friends declare that he was a pioneer in the movement to control corporations. It was upon his recommendation that Congress amended the laws against railroads so as to punish them for granting rebates, extend the authority of courts to enjoin the carriers against making discriminatory rates, and permit the Federal courts to give precedence to cases of great importance to the public. These actions made him a powerful factor in the war against unfair practices by corporations, which was the outstanding feature of that period of President Roosevelt's administration.

His own views on these powerful combinations were expressed in an address at that time, in which he declared that over-capitalization was the most conspicuously evil feature of the trusts, but that other factors which contributed to their ill effect upon the public were lack of publicity of operation, discrimination in prices designed to eliminate competition, a tendency to monopolize trade in their lines, and failure to appreciate that they owed any service to the public. "My purpose," he declared, "is to show that we are not hopelessly helpless to deal with serious problems which confront us."

Mr. Knox has been credited by some with having "actually carried through" the purchase of the Panama canal for \$40,000,000, which was

an achievement of the Roosevelt administration. As Attorney-General, Mr. Knox went to Paris and ascertained that the new Panama Canal Company held a clear title to convey the canal. This enabled the United States to proceed with the purchase.

On the death of Senator Quay, Governor Pennypacker, on July 1, 1904, appointed Mr. Knox to fill out the unexpired term. He took his seat at the beginning of the second session of the Fifty-eighth Congress, and the following year was elected for a full term. While in the Senate he was instrumental in framing the railroad rate law. His labors were so uniformly useful that President Roosevelt declared: "You have deeply affected for good the development of our entire political system in its relation to the industrial and economic tendencies of the times." In 1908 Senator Knox was Pennsylvania's candidate for the presidency, receiving sixty-eight votes in the convention.

President Taft was strongly desirous of having lawyers of the highest rank in his cabinet, and especially those well qualified to advise in corporation matters. He held Senator Knox in high esteem, but it seemed for a time that his desire to call him into his cabinet was not to be realized. While Mr. Knox was Senator, the salaries of cabinet officers had been increased, and this made him ineligible under the law. Anxiety on the part of the President and willingness on the part of Congress led to the enactment of another law which reduced the salary of the Secretary of State to what it had formerly been, and this was held to remove the difficulty. Therefore, Mr. Knox resigned his seat in the Senate, and became Secretary of State, in which position he served with distinguished ability.

As Secretary of State he inaugurated an active policy of aiding the extension of American trade with foreign countries, which was characterized as "dollar diplomacy," a designation intended in derision, but of which Secretary Knox afterward declared he was proud. He proposed that an Arbitral Court be established at The Hague, and that the Manchurian railway be neutralized, and approved the plan for the Central American Court of Justice for maintaining peace in Central America. He negotiated arbitration treaties with France and Great Britain, and made a notable trip to Central American countries, Colombia and Venezuela. In 1912 he was assigned to attend the funeral of Emperor Mutsuhito of Japan, as representative of the United States Government. One of the features of his secretaryship was the dispute with Great Britain over the proposal to exempt American coastwise shipping from payment of tolls for use of the Panama canal.

On Nov. 16, 1916, he was again elected Senator from Pennsylvania. He was an active figure in the fight in the Senate in 1919 and 1920 against the ratification of the Peace Treaty of Versailles. Even when the treaty was being drawn up, he delivered speeches in the Senate and out of it in which he demanded that the League of Nations covenant should be separated from the other part of the treaty. He introduced a resolution to that effect, which was adopted by the Senate, and also presented a

resolution against the appointment of American representatives on the reparations commission. He also drafted one of the various resolutions submitted to the Senate for adopting the treaty with reservations.

Subsequently Senator Knox was the author of a resolution adopted by the Senate in May, 1920, declaring peace with Germany. This also was vetoed by President Wilson. With some modifications the resolution was again adopted by the Senate soon after the opening of the special session of Congress called by President Harding. Senator Knox's last important address in the Senate was in support of his position that Congress had the power and upon it devolved the duty to end the status of war by resolution. The resolution passed, and it was under it that President Harding negotiated the pending treaties of peace with Germany, Austria and Hungary.

When Congress took a recess late in August, Senator Knox left for Europe with Mrs. Knox for a vacation and was absent slightly more than six weeks. He sought to reach Washington in time to vote on the Panama canal tolls repeal, but arrived some hours after the vote had been taken. He told his associates that while he had benefited by his vacation he felt somewhat tired.

Always a political power in Pennsylvania and in the high national councils of his party, Senator Knox was said by his friends not to be a politician. He was not active in the management of the Republican party in the Nation, and his election as Senator, following his Cabinet service, was said by close friends to be more in recognition of his statesmanship than a matter of State politics. In the Senate Mr. Knox spoke infrequently, and his occasional addresses, usually carefully prepared, were attended closely by members on both sides of the chamber. He was one of the most prominent of the "irreconcilables" in the Republican fight against the Treaty of Versailles, and was reputed to have been the author of some of the so-called Lodge reservations to the treaty, among them the provision dealing with retention of control over seized enemy property.

Senator Knox was a lover of out-of-doors and its sports, hunting, fishing, golfing, and above all driving. When two decades before his passing he practiced law in Pittsburgh, he was a member of the Pittsburgh and Allegheny Driving Club and had many brushes with other members on the Brunot Island track.

In the summer of 1900, Mr. Knox added the crowning honor to his laurels as a sportsman by driving his trotting pole team, "Wert" and "Dr. Leek," to a world's record that stood until a few years ago. And the future Senator not only drove this well-matched pair, but trained them himself and personally prepared them for their fight against the watch in what is perhaps the greatest test and greatest achievement of the gentlemen driver, teaming a pair to a world's record. He studied the team, drove the horses week after week on the Brunot Island private track, and then came to the conclusion that "Dr. Leek" and "Wert" could beat the world. On this record-breaking spin he gave the team a

loose rein, and the hands of half a dozen watches told him at the finish that the world's record had been lowered from 2:12½ to 2:10½.

In 1897, Mr. Knox was elected president of the Pennsylvania Bar Association. There are a number of famous cases of record at the Allegheny bar in which the law firm of Philander C. Knox and James H. Reed won great victories. The one which attracted, perhaps, the greatest popular attention was the case of Clark vs. Clark years ago. It was the suit of Mrs. Edward L. Clark, widow of the manager of the Solar Iron Mills of Pittsburgh, and daughter-in-law of the principal stockholder, Mrs. William Clark, in the mill. The suit of the younger widow against the older was over a contract which her husband had with his mother in the management of the property. It was more or less of an intricate affair and involved nearly \$500,000. The case of Mrs. Clark, Jr., had been lost before the master and had been lost in the court below before it was brought to Knox & Reed. There was a sentimental interest about it, and so Mr. Knox possessed himself of every shred of testimony and practically glued himself to the case for weeks. He did with it as he did with almost every case in which he undertook the personal management, talked it over for hours with his partner, presenting every phase of doubt, uncertainty of weakness. Then he took it before the Supreme Court and won the case.

Senator Knox received the degree of LL. D. from his *alma mater*, Union College, also from Yale, Pennsylvania, Pittsburgh universities, Washington and Jefferson College, Villa Nova College, and the University of Guatemala. He had served Union College as a trustee, and was a member of many clubs in Pittsburgh, Washington and New York. He was a member of the Senate Committee on Foreign Relations, and in a quiet, unobtrusive way wielded strong influence in the matter of appointments, notably in the naming of Andrew W. Mellon to be Secretary of the Treasury in President Harding's cabinet, and there were many others. He read and studied much, living in an atmosphere of books, statecraft and law.

In 1876, Senator Knox married Lillie Smith, daughter of Andrew D. Smith, of Pittsburgh. Four children were born to Senator and Mrs. Knox: Reed, Hugh S., Philander, 6th., and Rebecca, wife of J. R. Tindle.

Senator Knox died as he would have wished "in the harness." He was devoted to his profession and worked very hard when in active practice. He said: "A lawyer need not be a genius; indeed it is not necessary for him to be brilliant. But he is obliged to be industrious and to like his calling." Again he said: "The law is in the books, a lawyer is compelled to go there to find it, that means work. The law found, he must know how to apply it." This was his recipe for success, and painstaking effort was the foundation upon which Senator Knox built success both as lawyer and statesman.

JOHN ARUNAH HARPER—A faithful citizen and veteran banker for thirty-eight years associated with the Bank of Pittsburgh National Association, the oldest financial institution west of the Allegheny moun-

tains, John Arunah Harper was born on Penn street, near old Marbury, Pittsburgh, June 29, 1839, son of John and Lydia Electa (Metcalf) Harper. John Harper, son of Hugh Harper, was born in County Donegal, Ireland, Dec. 5, 1811, and following the father's death in 1821 the mother and children came to America, settling in Washington, D. C. In 1826 the family moved to Jefferson county, Ohio, and one of the sons, Lecky Harper, became United States Senator from Ohio.

Among John Harper's intimate boyhood friends was Edwin M. Stanton, who became President Lincoln's famous Secretary of War. He became an expert bookkeeper, and in 1831 accepted a position with one of the large mercantile houses of Pittsburgh, a year later being elected to a position in the Bank of Pittsburgh. Within the following year he was promoted to the chief clerkship, and his subsequent long career was a succession of advances to posts of increasing responsibility, culminating in his election to the presidency. He assumed the duties of this office in 1866, and remained at the head of this institution until his death in 1891. Not only did he guide the Bank of Pittsburgh in paths of prosperity, usefulness and honor throughout the quarter of a century of his presidency, but as one of the organizers and the first president of the Pittsburgh Clearing House he rendered valuable service to the cause of financial and commercial stability in the district. As a financier he was without a superior, his excellent judgment having its source in comprehensive knowledge of economic and banking laws, and strengthened by intimate touch with all phases of the industrial and business life of the community. He was president of the Pittsburgh and Allegheny Suspension Bridge Company, director of the Monongahela Navigation Company, and a corporator of Allegheny Cemetery. For several years he was president of the West Penn Hospital, a trustee of the Western University of Pennsylvania for many years, and a commissioner of the Sinking Fund of Allegheny County. His home life was of rare beauty, and in his home he had gathered one of the finest libraries in Western Pennsylvania. He was endowed with a marvelous memory, and his mind was a veritable storehouse of the contents of the volumes of his library.

John Harper married, in June, 1836, Lydia Electa Metcalf, of Otsego, N. Y., daughter of Nathan Metcalf, granddaughter of Arunah Metcalf, and a direct descendant of Michael Metcalf, who came to New England from his English home in 1637. Arunah Metcalf was for many years sheriff of Otsego county, N. Y., served in the New York Legislature and the National Congress, and was a neighbor and friend of James Fenimore Cooper. Arunah Metcalf married Eunice Williams, a direct descendant of William Williams, a signer of the Declaration of Independence, and they lived to celebrate their Golden Wedding anniversary.

John Arunah Harper, son of John and Lydia Electa (Metcalf) Harper, was educated in the Grigg and McDonald Academy, of Pittsburgh, the Western University of Pennsylvania, and Kenyon College, of Gambier, Ohio, being graduated from the last-named institution in the class of 1860. In the same year he attained his majority, and he entered the Bank

of Pittsburgh and for many years served in various official capacities, his service interrupted only by a term of enlistment in the Union army as a private in Company D, 15th Regiment, Pennsylvania Militia, dating from June 17, 1863. His influence in Pittsburgh financial circles was the counterpart of that of his father, steadying and strengthening the public confidence, inducing trust and good will wherever he appeared, and these qualities constituted a large part of his contribution to the bank's welfare. Mr. Harper had numerous business affiliations outside financial circles, and was a director of the Eagle Cotton Mills and a director and for a long time secretary and treasurer of the Sixth Street Bridge Corporation.

His philanthropies were numerous and important, prominent among his interests of this nature being the West Penn Hospital, of which he was a staunch friend from 1860, serving as its president from 1891 until his resignation in 1898. He found time for social and club activities, was a member of Post No. 259, Grand Army of the Republic, Sons of the American Revolution, the Western Pennsylvania Historical Society, of which he was a trustee, and from his college years was a member of the Alpha Delta Phi fraternity. His club was the Duquesne, of Pittsburgh. In religious affiliation the Harper family is Episcopalian.

Mr. Harper married, in Pittsburgh, May 30, 1882, Flora Warner Sherburne, daughter of Edward Warner and Jane Marie (McLaughlin) Sherburne. They were the parents of the following children: Alberta, born Dec. 17, 1883, married Franklin C. Irish, of Pittsburgh; Florence, born Aug. 2, 1885, married Herbert Fulton Byram, of Pittsburgh; and Lydia Electa, born Jan. 1, 1887, married Ralph E. Brush, of Greenwich, Conn.

John Arunah Harper died Dec. 28, 1920. His death marked the closing of a remarkable record of service of father and son to one of the city's great financial institutions, and more important still, of notable coöperation for the advancement of the civic, educational, and philanthropic interests of Pittsburgh.

JUDGE JOSEPH BUFFINGTON—Since 1892 Judge Buffington has been upon the bench in Pennsylvania, his judicial career distinguished by able and faithful service. He was born at Kittanning, Pa., Sept. 15, 1855, son of Ephraim and Margaret Chambers (Orr) Buffington. After preparatory education he obtained the degree of B. A. at Trinity College, Connecticut, in 1875, then taking up the study of the law. In 1878 he was admitted to legal practice, and from that year until 1892 followed his profession at Kittanning, Pa. Appointed district judge of the Western District of Pennsylvania in 1892, he filled this post until 1906, and on September 21 of the latter year, he was appointed to his present judicial place—United States Circuit Judge of the Third Circuit. Judge Buffington has compiled a splendid record upon the bench, and is noteworthy for his long, continuous, and able discharge of public duties. Judge Buffington has received honorary degrees as follows: LL.D., Lafayette Col-

lege, 1915, also from Trinity College, University of Pittsburgh, Princeton, and Washington and Jefferson, and D.C.L. from Mt. St. Mary's College.

Judge Buffington married, Jan. 29, 1885, Mary Alice Simonton, of Emmitsburg, Md.

SAMUEL BLACK McCORMICK, D. D., LL. D.—Legal, ministerial and educational work successively claimed Dr. McCormick, and since 1904 he has been chancellor of the University of Pittsburgh. He is prominent in both university and church circles, and in association with learned and scientific societies.

Samuel Black McCormick was born in Westmoreland county, Pa., May 6, 1858, son of Dr. James Irwin and Rachel L. (Black) McCormick. Upon the completion of his preliminary training, he entered Washington and Jefferson College, and was graduated A. B. in 1880, receiving his Master's degree in 1883. In 1880 he became a teacher in Canonsbury Academy, and in 1881-82 filled a professorship in Washington and Jefferson College. During this time he pursued legal studies, was admitted to the bar in 1882, practiced in Pittsburgh in 1882-83, and in Denver, Col., from the latter year until 1887. From 1887 to 1890 he was a student in the Western Theological Seminary, Pennsylvania, and in 1890 was ordained a Presbyterian minister. His first charge was Central Church of Allegheny, where he remained from 1890 to 1894, then going West to the First Church of Omaha, Nebraska, where he served until 1897.

In this year Dr. McCormick withdrew from the active ministry, and until 1904 served as president of Colorado College of Iowa, then coming to Pittsburgh as chancellor of the University of Pittsburgh. This is his present post, and in this relation to the life of Pittsburgh it has been his privilege to deal a strong and beneficial influence. Dr. McCormick has kept in close touch with religious work, and is a director of the Western Theological Seminary. In 1901-02 he served as a member of the revision committee of the Presbyterian church. He is a life member of the American Association for the Advancement of Science, and a member of the American Academy of Political and Social Science, the Victoria Institute, the English Speaking Union of London, the College and University Council of the State of Pennsylvania, the Pennsylvania Society of New York, and the Sons of the American Revolution. In 1887 he received the degree of D. D. from Washington and Jefferson College, and in 1902 that of LL. D. from the same institution. He has been honored with the degree of LL. D. from William and Mary College in 1913, from Allegheny College in 1915, and from the University of Pennsylvania in 1916. Dr. McCormick is a director of the Pittsburgh Chamber of Commerce, a trustee of Carnegie Foundation for the Advancement of Teaching, and a member of the Duquesne, University (Pittsburgh), and University (New York) clubs. His fraternity is the Phi Gamma Delta.

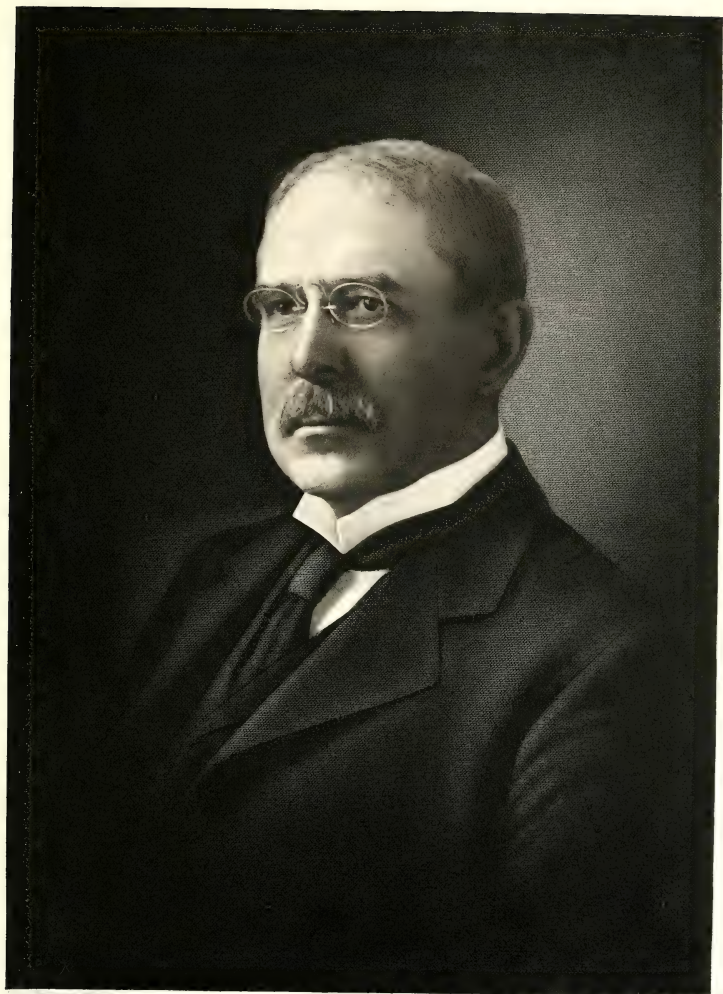
Dr. McCormick married, Sept. 29, 1882, Ida May Steep.

JOHN DOUGLAS SHAFER—Chosen judge of the Court of Common Pleas by the Governor in 1897, Judge Shafer's appointment was confirmed at the following election, and through successive reelections he now fills that place of responsibility and honor. He is a son of Alexander Geary and Maria D. (Harper) Shafer, and was born in Allegheny county, Pa., Dec. 5, 1848. His college studies were pursued in Washington and Jefferson College, whence he was graduated in 1866, and he at once entered the teaching profession. Until 1871 he was a teacher at West Alexander and McKeesport, Pa., then becoming a professor of Greek in Westminster College, where he remained until 1873. In 1874 he was admitted to the bar and began practice in Pittsburgh. From the time of its founding in 1895 he has been dean of the Pittsburgh Law School. His judicial career began in May, 1897, when he was appointed by the Governor judge of the Court of Common Pleas of Allegheny county. In November of the same year he was elected to this high office, was reelected in 1907 and 1917, his present term expiring in 1927. In 1915 he became president judge of this body, and by his colleagues of the bench and bar is known as a learned, faithful and upright judge. He is a trustee and vice-president of the Carnegie Institute of Pittsburgh. In politics he is a Republican, and in religious faith a member of the Presbyterian church.

Judge Shafer married, June 25, 1901, Mrs. Maud B. Gifford, of Lincoln, Neb.

GEORGE TENER OLIVER—There can be no time when the historian of Pittsburgh, writing of the last half of the nineteenth and the first half of the twentieth centuries, can fail to place the name of George Tener Oliver high upon the list of men to whose devoted service much of the advancement of that period was due. This is true because the nature of his accomplishments was not that which rouses only temporary enthusiasm, but of the type whose value increases with the passing of time, whose basic virtues come into full fruition under the stress of circumstances, whose development he foresaw. To a man of broad talents, to an industrialist, and business executive of clear vision, to a public servant, single-minded in his efforts for the public welfare, to a noble, Christian gentleman, this record is dedicated.

Henry W. Oliver, father of George Tener Oliver, was a merchant in Donaghmore, County Tyrone, Ireland, and was active and influential in local politics. In the election of 1841 he warmly espoused the cause of the Liberals, thereby gaining the ill will of the successful candidate, who was the Lord of the Manor. The victorious earl, with his friends, boycotted the supporters of the defeated candidate, ruining their business whenever possible. On this account Mr. Oliver decided to emigrate to the United States, and in the autumn of 1842 settled in Pittsburgh, Pennsylvania. Being a good mechanic, he soon established a profitable business, which he conducted for over forty years, winning recognition as a substantial merchant and manufacturer. Mr. Oliver married Margaret Brown, who, like himself, was of Irish birth and Scotch ancestry.



George S. Thayer

George Tener Oliver was born January 26, 1848, in Donaghmore, County Tyrone, Ireland, during a visit of his parents, Henry W. and Margaret (Brown) Oliver, to the old home which they had left some years before for a residence in the United States and in Pittsburgh. The earliest education of George Tener Oliver was received in the public schools of Allegheny, for he was little more than an infant when his parents brought him from Ireland, and he afterward studied at Pleasant Hill Academy, West Middletown, Pennsylvania, before entering Bethany College, West Virginia, where he was graduated with the class of 1868. In later life Mr. Oliver was for many years a trustee of this college and much interested in its work and progress. After leaving college he was for a short time an instructor in the Peebles Township School, the section now known as Hazelwood, meanwhile keeping steadily in view his ultimate goal, namely, an admission to the bar. On October 1, 1867, he registered as a law student, and on March 18, 1871, on motion of Jacob F. Slagle, was admitted to the Allegheny county bar, Hill Burgwin, in whose office he studied, having been his preceptor.

In association with William B. Rogers, Mr. Oliver, for the ensuing ten years, engaged successfully in the practice of his profession, all the conditions seeming to promise a future of more than ordinary distinction. During this time Mr. Oliver was counsel for the Dollar Savings Bank. The reputation which he built up for himself while a member of the bar was recognized in 1912 by Lafayette College, which in that year conferred upon him the degree of Doctor of Laws.

Inherited instincts for a business career, together with the desire for an extensive field of action, prompted Mr. Oliver in 1881 to withdraw from the legal arena to accept the offer of vice-presidency of the Oliver Wire Company. Succeeding in the course of time to the presidency, he retained that office until 1889, when the concern sold its plants. In that year he became president of the Hainesworth Steel Company, which in 1897 was merged with the Oliver & Snyder Steel Company, Mr. Oliver succeeding to the presidency of the new corporation. During his years as a business man he proved most conclusively that his record would have lacked one of its most brilliant chapters had he not decided to enter the world of affairs. In 1901 he disposed of his manufacturing interests, retiring after twenty years of exceptional success. In later years, as a trustee of the Henry W. Oliver Estate, Mr. Oliver was a director of the Oliver Iron and Steel Company and chairman of the board of directors of the Oliver & Snyder Steel Company. Other directorships which he held at the time of his death were in the Newspaper Printing Company, the corporation which publishes the "Gazette Times," and the "Chronicle Telegraph," the Pittsburgh Coal Company, and the National Union Fire Insurance Company.

Most gratifying are the testimonies which show Mr. Oliver to have been during his years of business a model for employers. In him the faithful workman ever found a friend, and the friendships which he then formed with the men who worked for him continued to his death, ripen-

ing with the years. There were many periods when his plants were kept running to give employment to the men, even though the operation was not a source of profit. At the time of Mr. Oliver's retirement from business his attention had been directed to a new sphere of activity. In June, 1900, he purchased the "Pittsburgh Gazette," the oldest newspaper west of the Alleghenies, and for many years he was in active control of this journal, as well as of the "Pittsburgh Chronicle Telegraph," the oldest evening paper in Allegheny county. The papers testify to Mr. Oliver's success in the field of journalism.

In politics Mr. Oliver was a staunch Republican, and after reaching maturity he was almost continuously active in the public service, especially in connection with reorganization of the city under a new charter and its change of form consequent upon the annexation of Allegheny and several adjacent boroughs. From 1881 to 1884 he was president of the Central Board of Education of Pittsburgh, and in 1884 he served as presidential elector. Political ambition was, however, foreign to Mr. Oliver's nature, and in April, 1900, when he was asked to become a candidate for Republican nomination for Congressman-at-large, he declined, despite the fact that his success was assured prior to the meeting of the convention. In the autumn of that year he was absorbed in the campaign, not only for the second election of William McKinley to the presidency, but for the election of a Legislature which would favor the return of Matthew Stanley Quay to the United States Senate, the Legislature of 1899 having adjourned in a deadlock. Senator Quay was reelected by the Legislature of 1901, and in 1902, during the gubernatorial campaign, Mr. Oliver came forward as a champion of the candidacy of Judge Samuel W. Pennypacker, of Philadelphia. The result speaks for itself. Judge Pennypacker was elected by an overwhelming majority.

In 1904 occurred the death of Senator Quay, and the appointment of United States Senator was offered by Governor Pennypacker to Mr. Oliver, who declined the honor, wishing to be able to give his personal attention to his newspaper work and other enterprises. The same year Mr. Oliver served as delegate-at-large to the National Republican Convention which nominated Theodore Roosevelt for President, and in the Republican State Convention of 1906 he played a potential part in the nomination of Edwin S. Stuart for Governor. In 1908 he supported the candidacy of William H. Taft, and was his faithful adherent in the losing contest of 1912. The election of Mr. Taft brought with it another call for Mr. Oliver to enter public life, and in March, 1909, he consented to serve the unexpired term of the Hon. Philander C. Knox, who resigned his seat in the Senate to become Secretary of State. During his term of office, Senator Oliver rigidly adhered to one principle, consideration of the tariff. At the time he took his seat Congress was in special session for the revision of the tariff, and in the ensuing discussion, covering a period of three months, his opportunity came, and he took advantage of it with marked credit to himself and very great benefit to his constituents. A close observer has thus described him at this point in his career:

George T. Oliver employs language only when he thinks it to be necessary. He was steady, attentive, silent for five or six weeks. Then one morning some lawyers from the corn and wheat region of the middle west began a discourse on iron—pig and scrap. After that to the end, Oliver stood up when he had a mind to and lifted the fog with the laconicism and knowledge which at once made him both dangerous and conspicuous.

The Pennsylvania Legislature certainly had reason to congratulate itself on having paid Mr. Oliver the compliment of giving him the almost solid Republican vote. The above is the barest outline of the inception of his political career, with the exception of the fact that in 1890 he served as supervisor of the Federal census for his district. On January 18, 1911, Senator Oliver was reelected for a full term of six years, retiring from the Senate on March 4, 1917, after eight years of service for his State and Country. His retirement was voluntary, representative Republicans from all parts of the State having in vain entreated him to reconsider his announcement that he would not seek reelection. To his official duties the Senator gave the closest attention, surrounding himself with a competent office force and making it a rule that at the close of each day the business of that day, must be, as far as possible, completed. A letter to Senator Oliver, no matter how trivial, always elicited a prompt response. Not infrequently he travelled from Pittsburgh and even from his summer home in Cobourg, Canada, to Washington, to aid some constituent in a departmental matter, and no problem presented to him for consideration was neglected, however small the matter or humble the petitioner. During his prominence in politics, Senator Oliver took an active part in the five mayoralty elections in Pittsburgh since 1900. In two, the candidates he supported were defeated and three they were elected. Ever a staunch champion of his home city, her growth and prosperity were causes which he had ever at heart, and any movement which he believed would further those ends was invariably sure of his coöperation and support.

Always was Senator Oliver an ardent patriot. His last work in Congress was to fight for the bill giving the President authority to arm American merchant vessels to meet the German submarine menace. When it was seen that the bill was to fail, Senator Oliver and several of his colleagues prepared a manifesto which was signed by twenty Republicans and forty-six Democrats and entered on the record of the Senate. After war was declared, Senator Oliver gave counsel and assistance to various local war activities, continuing the work until impaired health imperatively forbade him to do so.

In the Masonic fraternity Senator Oliver was a conspicuous figure. The thirty-third degree was to have been conferred upon him in Boston, in September, 1918, but illness prevented his attendance. His clubs were the Duquesne, Pittsburgh, University, Allegheny County, Oakmont Country, Pittsburgh Golf, Pittsburgh Athletic, Press, Americus Republican, and Young Men's Republican Tariff—all of Pittsburgh; the Union League of Philadelphia, the Union and University clubs of New York; the Metropolitan and National Press clubs of Washington, and the Cobourg Golf Club. From 1907 to 1909 he was president of the Duquesne

Club. He belonged to the Pennsylvania Society of New York and the Pittsburgh and United States Chambers of Commerce. He was a member of the East End Christian Church, but in him all religious bodies found a friend. His charities were constant and generous, but in regard to them he permitted no publicity. In addition to all Senator Oliver's other responsibilities was one imposed upon him by the death of his brother, Henry W. Oliver, whose large estate he was called upon to administer in association with Henry R. Rea and the Union Trust Company. In the latter years of his life, Henry W. Oliver had been an extensive purchaser of downtown real estate and had made plans for its improvement. Among these works which were executed by Senator Oliver and his associates were the Henry W. Oliver, the McCreery & Company, the Kaufman & Baer Company and the Meyer Jonassen & Company buildings, with other important improvements in Liberty and Oliver avenues. Another building operation managed by the trustees was the erection of the South Side Baths, South Tenth and Bingham streets. From November, 1905, to the time of his death, Senator Oliver was a trustee of the estate of his brother, James B. Oliver. The last extensive building project which engaged the attention of Senator Oliver was the erection of the Chamber of Commerce building. It was finished in the spring of 1917 and was his own property. Under his direction the new home of the "Gazette Times" and the "Chronicle Telegraph" was erected. It was occupied in February, 1915, and it is the most modern newspaper plant in Pennsylvania. The personality of Senator Oliver was complex, combining as it did the attributes of the lawyer, the man of affairs, and the political leader.

Senator Oliver married, December 19, 1871, Mary D. Kountze, daughter of Christian and Margaret (Zerbe) Kountze, of Omaha, Neb., and they became the parents of the following children: Margaret K., wife of John P. Young; Mary D., wife of Dr. Alexander C. Blair; George S.; Augustus K.; William B., deceased; Jean, wife of Edward McCauley, Jr.; and Bennett. The three sons, during the World War, entered the service of their country—George S. Oliver as regional adviser in the Pittsburgh district to the War Charities Board, and Augustus K. Oliver as chairman of the Pittsburgh Chapter of the Red Cross. Bennett Oliver left school to enter the aviation service and won a lieutenancy. For Senator Oliver no other place presented such attractions as his own fireside, presided over by his wife, who combined with many social gifts the most charming domesticity. The death of Mrs. Oliver on May 23, 1917, dissolved an exceptionally happy union of nearly half a century.

Throughout Senator Oliver's career, Pittsburgh always remained his home. During his congressional service, he maintained a house in Washington, and a number of years before his death he purchased a farm at Cobourg, Canada, and made it his summer retreat, but the permanent residence of the family was never removed from Pittsburgh. He loved his city, and when the time drew near for his retirement from national politics he said: "When I am in Washington I sometimes regret that I

am leaving the Senate, but when I get back to Pittsburgh for a day I have a feeling that I am glad that I am soon coming home to stay."

It was in that much loved home that Senator Oliver breathed his last on January 22, 1919, admired, trusted, honored and loved. He was a man who drew men to him, inspiring them with the loyal devotion which was part of his own nature. When Senator Oliver's death was announced to the Chamber of Commerce the entire assemblage rose to their feet as a mark of respect to his memory. Mayor Babcock, on receiving the news, ordered the custodians of city property to place flags at half-mast on all city buildings and in all parks. The mayor issued the following proclamation:

Although not unexpected, I regret very much to hear of Senator Oliver's death. I mourn with his family, for I too have lost a good friend. The city of Pittsburgh has also met with a severe loss, for he always stood for whatever was best for its interest and had done much toward making Pittsburgh what it is to-day.

On the announcement of the death of Senator Oliver all the branches of the county courts adjourned, and the Council passed resolutions from which the following is an extract:

In the death of George T. Oliver, Pittsburgh has lost one of her foremost citizens, a man who served both his city and his country faithfully and well and who ever had the interests of this great city at heart—a man well known in the business as well as the political life of this community, and a man who devoted his interests to the welfare of the city he loved.

In the State Senate, Senator Leslie, of Allegheny, said:

Senator Oliver was a man of the highest character and stood out preëminently. His devotion to duty, to his State and Nation, will always be a standing example of the true American.

Senator Penrose sent the following telegram:

I have been profoundly shocked to hear of the death of Senator Oliver. I recall with great satisfaction my close political and personal association with him for over a period of years.

Representative Guy E. Campbell said:

While I did not know Senator Oliver intimately I had a high regard for him as a man, and as one who helped materially in the upbuilding of Pittsburgh. His name and that of his family was closely related to the Pittsburgh of to-day, and the Senator's interest in everything that made for a bigger and better Pittsburgh was never permitted to relax during his life. The city owed him much.

Representative John M. Morin, of Pittsburgh, spoke thus:

Senator Oliver's death is a loss to his Country, his State and his City. In his passing Pittsburgh loses a builder whose monuments will live after him.

Representative M. M. Garland, of Pittsburgh, said:

The news of the death of Senator Oliver is distressing to me. As one who has had much to do with the organized labor in Pittsburgh I reverence his memory.

From James Francis Burke, who served in Congress during Senator Oliver's term, came this tribute:

In a multitude of places Senator Oliver will be mourned by those who knew his merits as a man and to whom he had been of real service in the course of his useful and distinguished career. While he was in the Senate and I was in the House, I had occasion to learn and appreciate the real worth of his abilities and his diligent devotion to his public duties in the service of his State and his Country. Gentle and thoughtful as he was, he won a warm place also in the hearts of his colleagues in both branches of the American Congress, who learned to appreciate his fine spirit of fellowship and how sincerely he cherished the finer friendships of life. He was intimately associated with and bore a significant relation to the history of the wonderful community of which he was a citizen and by which he will be missed as few men are in the busy whirl of modern life.

Senator Philander C. Knox spoke thus:

I am deeply grieved by the sad news of George T. Oliver's death. We have been lifelong friends and I have always entertained the most sincere regard for him. I highly appreciate his sterling character and capabilities. We were associated together as lawyers, and in public life our lines have been largely parallel. Here in the Senate he had a place in the affections of his colleagues that is unique. The expressions of regret at his departure to-day were from all who served with him, regardless of their party affiliations.

The "Pittsburgh Press," in its editorial columns, said, in part:

The death of George T. Oliver removes a figure of prominence in widely varied fields. To the casual observer who saw him some time before his fatal illness overtook him, it would never have occurred that he was in his seventy-first year. He was from an energetic family and, at least outwardly, betrayed few signs of the advance of age. An honorable and influential position was his in the world of banking, finance, manufacturing, journalism, and politics. Scion of a family which has for two generations been conspicuous in the industrial and financial upbuilding of Pittsburgh, he had played a part in the State and Community which it ungrudgingly acknowledges, as the news of his passing awakens in it a sense of genuine loss.

The "Pittsburgh Post" said:

An honorable career was closed yesterday by the death of former United States Senator George T. Oliver, publisher of the "Gazette Times" and the "Chronicle Telegraph," and for many years prominent in the business and political life of Pittsburgh and Pennsylvania. He achieved national distinction in the Senate by his knowledge of manufacturing conditions. While a Republican of the stalwart school, his Democratic colleagues held him in esteem because of the reliability of the data he used in his arguments and the conscientiousness with which he applied himself to every measure he espoused.

The "Pittsburgh Dispatch" said, in part:

The death of Senator George T. Oliver cuts down the number of those men of the disappearing generation whose activities gave them the name of the "builders of Pittsburgh." The name of Oliver is one with Pittsburgh in almost interchangeable relation as those of Jones, Carnegie, Phipps, Frick, Schwab. The family name likewise is inseparably linked with iron and steel industry upon which Pittsburgh grew. Senator Oliver will be remembered as one of the men who made Pittsburgh. Educated in the law and a practitioner at the county bar, his preferences for a larger field carried him into politics, and after twice serving as presidential elector and Republican adviser he reached the climax of his political career, in service in the United States Senate, from which he retired in 1917. His broad practical information gained in manufacturing experience and through close contact with commercial enterprises enabled him to become one of the Senate's guides in all problems affecting American industries, and to stand guard over those upon which directly depends the prosperity of Pennsylvania.

Editorially the "Pittsburgh Leader" said, in part:

No community can be deprived of the services of George Tener Oliver, whose long and active life was spent in and largely for the interest of Pittsburgh, without feel-

ing the loss. His career was one of success measured by its value to the city and his personal advancement. Senator Oliver was one of those Americans of the genuine Pittsburgh type whose accomplishments were marked by thoroughness, commanding respect for their admirable business and human qualities. From student to a place at the Allegheny county bar, thence into the iron and steel business with his brothers, and from that to an honorable place in the political life of Pennsylvania and the Nation, Senator Oliver progressed easily and with success. The city has met a loss, and mourns a good citizen and fervent patriot no less than a business man of far-reaching vision.

If a citizen can have no greater satisfaction than that of knowing that he has served his community and country faithfully and well, George Tener Oliver, during his lifetime, was certainly entitled to that supreme reward of merit, and now that he has "ceased from earth," his city and his State bear unanimous and grateful testimony to all that he has accomplished. His record as a lawyer, albeit a brief one, is a credit to the Pittsburgh bar; his career as a business man greatly advanced the interests of the city's mightiest industry; his work as a journalist is of permanent value, and in the sphere of politics, both as leader and legislator, he rendered service never to be forgotten by the city of Pittsburgh or the State of Pennsylvania.

These are the words we hear to-day in Pittsburgh, and wherever Senator Oliver was known. These are the heartfelt thoughts of those who worked with him and under his leadership. They cannot be quoted too often, for from their recital and repetition are learned lessons of patriotism, of devotion in service, and of effort consecrated and crowned.

ERASMUS WILSON—As a newspaper man, Erasmus Wilson was active in Pittsburgh for thirty-seven years, and he was justly known as one of the deans of the profession. Few columnists have achieved the following and popularity that came to him in the writing of "Quiet Observations," which was a leading feature of the "Gazette Times" from 1888.

Son of Joseph A. and Isabel (Kerr) Wilson, Erasmus Wilson was born in Belmont county, Ohio, June 10, 1842. He was educated in the district school, and for three months attended Hopedale Normal School. As a young man he enlisted as a private in Company E, Ninety-eighth Regiment, Ohio Volunteer Infantry, and served with the Union army in the Civil War with distinction and honor. He was wounded at the battle of Perryville, and later became topographical engineer with the Fourteenth Army Corps, Army of the Cumberland, participating in Sherman's "March to the Sea."

In 1873, Mr. Wilson joined the staff of the Pittsburgh "Leader," and in 1884 was engaged for special work on the Pittsburgh "Dispatch," writing "The Quiet Observer." From that time, he continued the same line of work with the "Gazette Times," the title of the department being changed to "Quiet Observations." He was widely known and read as a dramatic critic and book reviewer, and was long regarded as an essential Pittsburgh institution in journalism. He published a book, "Quiet Observations," in 1886. Mr. Wilson's chief interest outside his profes-

sion was in connection with Boy Scout work, and he was president of the Boy Scouts of Allegheny county, heading in this office one of the most important activities in behalf of the coming generation to be found in the district. In 1912 Mr. Wilson received an honorary M. A. from Bethany College.

He died January 14, 1922, aged seventy-nine years. There is quoted below in part, the tribute of Rev. Dr. Maitland Alexander to a well loved resident of Pittsburgh:

I think there stands out preëminently in Erasmus Wilson his love for his fellow-man. No man could write as he did or serve as he did or have friends as he did unless he loved folks. The love of people is a marvelous asset in any life, and Erasmus Wilson had it fully developed. No one passed that he was not interested in what they were thinking or planning or fearing or longing for. I ran into him on Liberty Street recently when I was thinking about something, and when I apologized he smiled and said, I was forgiven if I would tell him what I was thinking about, that nothing interested him more than the thoughts of people. This kept him young, fresh in his thinking, interested in life and gave him as well a great heart of sympathy.

Erasmus Wilson was an idealist, a dreamer of dreams in a very materialistic and rationalistic age. A newspaper life is not conducive to either spirituality or idealism, but he had them both. Forests spoke to Erasmus Wilson, the whisper of the wind in the pines, the ripple of the brook over the stones, the smell of the clover in the fields, the shining of the stars, or the roar of the ocean, even the silences were vocal to him. I have wondered what they said him. They must have spoken of his Father and His care and wisdom and love and power and goodness. They spoke of this old world and of the latent beauty and peace and fragrance underneath its strident voices and the shame and grimness of its sin. Erasmus Wilson was full of sentiment, not the maudlin, cheap variety, but a sentiment which is the natural product of a man with a big heart.

To me, one of the most interesting and helpful things in our friend's life, and which gave his writings widest popularity, was his ability to take men back to the scenes of their early life, before the dew was off their early days, before they became jaded and cynical and toil-worn, before they crowded into cities and were contaminated by the city's life. A few lines from his pen and the old farm appeared—the well, the orchard, the garden, the chickens and cows, the figure in the sunbonnet, the old mare and the yellow corn, watermelons—and to thousands the cares of the city life dropped off and they were boys again. So to many his writings became an oasis in the wilderness, a spring in the desert at which they drank and renewed their youth.

I should never call Erasmus Wilson a philosopher. He lived on faith too much for that. Faith in God and faith in man. If I should give him a name it would be that of a doctor of the soul, who, with skillful hands and kindly pen, made life easier, and God nearer and career higher, and hopes more beautiful. A man has to live in something else besides a philosophical atmosphere to do what Erasmus Wilson did and to be what he was.

It is a sad thing when young life is cut off in its prime. It is a glorious thing when a man reaches eighty years with the harvest of splendid life gathered, and a clear conscience, and a host of friends to bid him farewell as he pushes out on the ebbing tide into the ocean of a boundless eternity.

JOHN BINDLEY—The Bindley family has been resident in Pittsburgh almost a century. The founder of this family, John Cooper Bindley, came to Pittsburgh from England upon the attainment of his majority in 1829. His father, John Bindley, was born in England, and came to the United States late in the eighteenth century. He and his family lived for a time in Philadelphia, later removing to the vicinity of Williamsport, Lycoming county, Pa., where they lived until a serious personal injury determined Mr. Bindley to return to England. The accident of the capture of a British vessel, carrying as part of its cargo many cocoons, in the War of 1812, gave Mr. Bindley the opportunity of estab-

lishing the first silk factory in America, his wife's family being engaged in the production of silk in England. Returning, therefore, to England, Mr. Bindley began the manufacture of silk and continued in that work until his death. His son, John Cooper Bindley, born during his father's residence in America, at Williamsport, in 1808, was educated in the famous private English school of Professor Cross, returned to America, and after a few years in the Eastern States removed to Pittsburgh, Pa., and became a contractor and builder, conducting his business with that astuteness that was so characteristic of those pioneers of that manufacturing city. He was also an architect, which materially facilitated his operations as contractor and builder. He, as his own affairs broadened and prospered, became interested in those of the people and of the city in general. His conservative, yet constructive, views of all things that made for local progress and prosperity very soon commended him to citizens, particularly those who were active in structural Pittsburgh and sincerely concerned in maintaining a fine average in the advancement of the city. He was first of all loyal to his trade and profession, and in this he had the coöperation of his clients and, more important still, that of his subordinates in his various constructive operations. He became interested in the banking institutions of Pittsburgh almost as soon as he began to build houses and other structures, and was early a trustee of the Dollar Savings Bank, remaining in this capacity until his death.

Mr. Bindley married Elmina McEwen, daughter of William and Elmina (Flack) McEwen, in 1831. Their children were: Zabina, wife of William M. Johnston; Mary, wife of Captain John S. McMillan; Edwin, John, Josiah and Albion. His wife was beautiful in life, as she was in form, and the children of the family both in youth and man and womanhood worthy successors to their parents. Mr. Bindley lived in Pittsburgh fifty-two years, dying at his residence in the old Eighth Ward, Nov. 17, 1881. He was interested both in local and National politics, being first a Whig and afterward a Republican. He was long a member of St. Peter's Protestant Episcopal Church at Grant and Diamond streets.

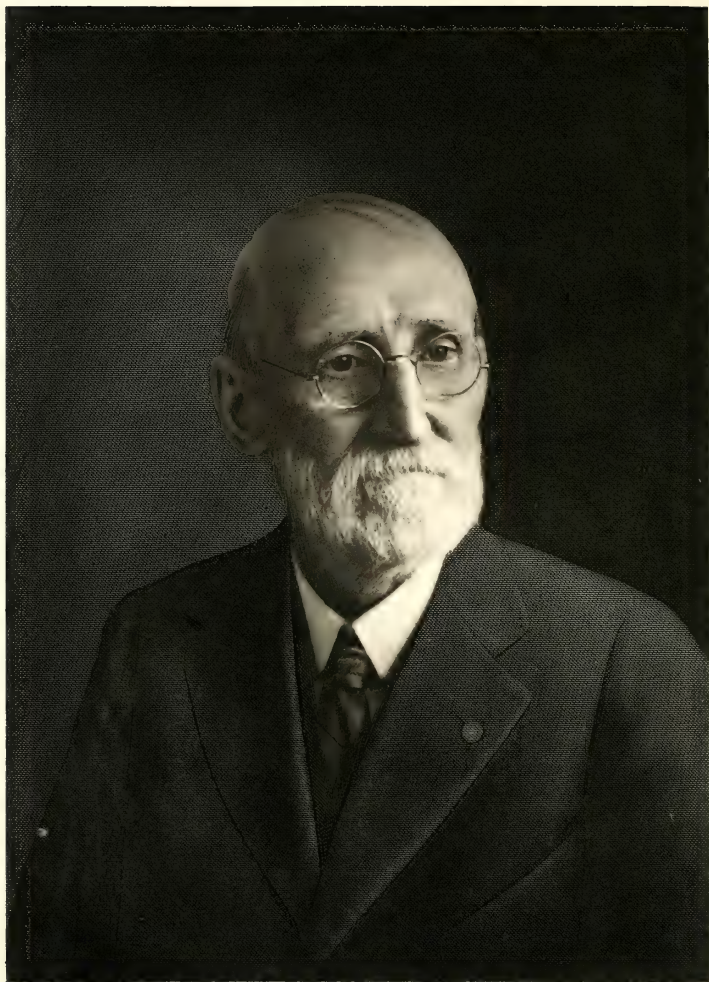
John Bindley, son of John Cooper Bindley, was born in Pittsburgh, Oct. 26, 1846. He was educated in the city public schools, the Penn Institute and the Iron City College. When he had attained his twenty-first year he became a partner of John England in the hardware business, and in the development of the objectives of this partnership he very soon demonstrated the possession of heredities of the family, prevision, judgment, aggressiveness and ceaseless industry, all backed by unswerving integrity. Later his brother, Edwin Bindley, became his partner and the scope of operations very materially widened. The firm rapidly developed into one of the largest in the West and later in the United States. Mr. Bindley had not been in business very long when he felt that he had in him talents for constructive organization that he must do justice to, and he began to look around for opportunity for concurrent activities. He found one upon a large scale, the organization and financing of the Pitts-

burgh Steel Company, which, under the stimulus of himself and his associates, rapidly became one of the great manufacturing plants of the world. Later, as a lateral idea of this concern, was born the Pittsburgh Steel Products Company and, independent of these, the Neely Nut and Bolt Company. He was vice-president of the Pittsburgh Steel Company, its president, and at his death chairman of its board of directors. He was also the prime mover in the organization of the National Hardware Association, and two years its distinguished president. When Mr. Bindley died he, besides his connections already related, was president of the Duquesne National Bank and director of the Dollar Savings Bank. While he was incessantly identified with his various organizations, he was always responsive to the duties that he recognized in citizenship as fully as imperative as the former. He was for six years president of the Pittsburgh Chamber of Commerce, and a long time chairman of the executive committee of the old Allegheny Exposition Society, out of which came the Western Pennsylvania Exposition Society, with which he was identified until its close. He was a director of the Tuberculosis League, a manager of the Western Institute for the Blind, and a corporator of the Allegheny Cemetery.

In his more intimate relations he was a member of the Art Society, the Academy of Arts, Pittsburgh, the Archæological Society, and the American Art Society. He was a member of the Pennsylvania Society of New York, the Automobile Club of America, Bankers' Club of New York, New York Yacht Club, Biscayne Bay Yacht Club, and of the Pittsburgh Athletic Association, Pittsburgh Automobile Club, Duquesne Club, Union Club, Pittsburgh Golf Club, Country Club of Pittsburgh, Oakmont Country Club, Miami Motor Club, Miami, Fla., and other organizations. He was a Republican in politics, and had a great interest in the successes of the campaigns of that party, being an unobtrusive, substantial contributor to these campaigns. He was a member of Calvary Protestant Episcopal Church.

While always very busy, Mr. Bindley was avidly fond of the luxuries and beauties of literature, and in his very fine libraries found opportunities to gratify his taste in this particular. He was an art connoisseur, and his opinion relative to the worth of paintings was frequently solicited. "Atherstone," his home in eastern Fifth avenue, was peculiarly pleasant to him when retiring from his many daily duties and therein he delighted to receive and entertain his select body of friends.

Mr. Bindley married, Oct. 26, 1875, Emeline C. Houston, daughter of Edward and Mary (Wilson) Houston, long time residents of old Pittsburgh. Mrs. Bindley died in 1886. Six children were born of this union, four of them dying in youth. His son, Edward Houston Bindley, associated with his father in most of his business connections, and a daughter, wife of the Rev. George Davidson, of Los Angeles, Cal., three grandchildren, a sister, Mrs. Mary B. McMillin, and Miss Elmina McMillin, survive him.



Geo. J. Thompson

ANDREW WILLIAM MELLON—A banker and industrialist of national reputation, Andrew William Mellon became known to the great body of Americans through his appointment to President Harding's cabinet as Secretary of the Treasury. In Pittsburgh his name has long been associated with affairs of vast constructive importance, while in his high government post he has compiled a noteworthy record under conditions trying in the extreme.

Andrew William Mellon, son of Judge Thomas and Sarah Jane (Negley) Mellon, was born in Pittsburgh, Pa., in 1852. He was educated in the Western University of Pennsylvania (University of Pittsburgh). In young manhood he acquired extensive business interests which increased with the years until he became one of the group of men to whom finance and industry look for leadership. Mr. Mellon was associated with Henry C. Frick in the development of coal, coke, and iron enterprises, and assumed numerous official positions, among them: Vice-president of the Union Trust Company; director of the Workingmen's Savings and Trust Company, Bessemer Trust Company (Braddock, Pa.), Duquesne Trust Company, Braddock National Bank (Duquesne, Pa.), Monongahela Trust Company (Homestead, Pa.), Wilkinsburg Bank, East Pittsburgh Savings and Trust Company, Union Fidelity Title Insurance Company, the Ligonier Valley railroad, of which he is secretary, and various others. Mr. Mellon was the founder of the town of Donora, Pa., where great steel mills were established. He has served as a trustee of the Carnegie Institute, is well known socially, and is a member of the leading clubs.

His choice for the treasury portfolio by President Harding was well received in his party and in the country-at-large, and in the difficult and often dangerous situations of post-war financing he has proved his strength and his judgment. His call to national councils was a fitting tribute to powers and talents long recognized by his business associates.

Mr. Mellon married, in 1900, Nora McMullen.

GEORGE THORNTON FLEMING—Author of numerous works treating of Pittsburgh, its people, and its history, George Thornton Fleming is widely known in literary and historical circles in this district. He is a descendant, paternally and maternally, of families long resident in the Commonwealth of Pennsylvania and, although he was born on the west coast, in San Francisco, all of his active years have been spent in Pittsburgh, which he knows so well and to whose literature he has made valuable contributions.

George Thornton Fleming was born May 5, 1855, son of William Brandt Fleming and Frances Caroline (Smith) Fleming, both natives of Carlisle, Pennsylvania, where they were married in December, 1849, by that noted divine, the Rev. Dr. Conway P. Wing, pastor of the First Presbyterian Church of Carlisle. William B. Fleming was an attorney-at-law, first admitted to the bar of Cumberland county, Pennsylvania, in January, 1851, and to all the courts of California soon after his arrival, in January, 1853. Another of the sons of William Brandt Fleming, Jona-

than Williamson Fleming, was for thirty-eight years an employee of, and for twenty years cashier, and later vice-president of the Farmers' Deposit National Bank, and a notable figure in Pittsburgh financial circles until his death in February, 1917. His widow, Jean Caven Fleming, and one son, Hartley Given Fleming, survive him. After the sudden death of her husband in 1861, Mrs. Frances Fleming, with her four little children, returned to Pennsylvania, dying three weeks after her arrival in Pittsburgh, in November, 1863.

George T. Fleming attended the Franklin and old Seventh Ward public schools of Pittsburgh, and the Pittsburgh Central High School, 1867 to 1871, when he was graduated. In 1872 he entered Baldwin University, now Baldwin-Wallace College, Berea, Ohio, and was graduated with the degree of A. B. in 1876, and given the degree of A. M., *in cursu*, in 1879. For a number of years Mr. Fleming followed business pursuits. Most of his later years has been devoted to his newspaper work and extensive writings, which include: The Historical Series in the Pittsburgh Gazette-Times, 1914-1922; *My High School Days, a History of the Pittsburgh Central High School, 1855-1871*, (1904); "Flem's" Fancies (1904); Collector and Publisher of "Flem's" Views of Old Pittsburgh (1908); "Pittsburgh—How to See It," a guide book (1916); editor of the Revised Edition of Craig's History of Pittsburgh; and editor and compiler of the Life and Letters of General Alexander Hays (1920). In reviewing this last-named work, Erasmus Wilson, of honored memory, wrote in part:

His son, Gilbert A. Hays; Captain David Shields, an aide on his staff, and others have been diligent in collecting the material for this book, and George T. Fleming ("Flem"), than whom none is better fitted for the work, has compiled it as few others could do it so well, so that it possesses rare value, not merely as a tribute to a most worthy officer, but as a personal history of the war. It is important that books such as this should be kept in a family to show to coming generations what their forbears were able to accomplish.

Mr. Fleming is the author of Volume I of the present work and in the chapters on Aboriginal Occupation and Events leading up to the Revolutionary War he has embodied the results of particularly deep and extended study and research. The illustrations accompanying same, as well as many in the volumes following his own, are from his large and valuable collection of prints and other views. He is a member of the Historical Society of Pennsylvania, the Historical Society of Western Pennsylvania, the Pennsylvania Society, the Ohio Valley Historical Association, the Authors' Club of Pittsburgh, and the Pennsylvania Society Sons of the American Revolution, by lineal descent in his maternal line from Colonel Matthew Dill, of York county, Pennsylvania, a notable character in the Colony of Pennsylvania, as was his father, Matthew Dill, Sr., a justice of the peace in York county at its formation in 1749. The family name has been commemorated in Dillsburg, York county, its site part of a grant by the Commonwealth to Colonel Dill, of 5,000 acres, in recognition of his services during the Revolution. The Fleming family were also prominent before and after the Revolution, then residents of Westmoreland county

During the insurrection of 1877, George T. Fleming served in the National Guard of Pennsylvania for three months, in Company D, Captain Merritt Batchelor, First Pennsylvania Volunteers of 1877, a provisional regiment, commanded by Colonel Hartley Howard, of Pittsburgh.

Mr. Fleming was married in Pittsburgh, November 9, 1881, to Elizabeth McAleese, of this city, daughter of James and Jacobina (Ziebler) McAleese. Mrs. Fleming is a member of the Mount Washington Methodist Episcopal Church; the Order of the Eastern Star; the White Shrine of Jerusalem; the Rebecca degree of the Independent Order of Odd Fellows, of which she is a past noble grand; and of Lieutenant Edward R. Geary Circle, No. 7, Ladies of the Grand Army of the Republic, of which she is now (1922) the president. They are the parents of: Horace Brayton, born August 19, 1883; Fannie Fay, born September 14, 1888, died June 13, 1890.

Since May, 1905, the Fleming family have resided on Mt. Washington, but were for upwards of thirty years residents of the Hill district, in the old Eleventh Ward of Pittsburgh. Mrs. Fleming was born in the Minersville district, subsequently the Thirteenth Ward of Pittsburgh, where her parents located upon their marriage in 1842. A brother, John McAleese, died in 1916, having been one of the best respected public officials in the city for more than a score of years.

Horace Brayton Fleming has been since 1902 an employee and official in the Pittsburgh post office. He is a widower, residing with his parents. His wife, nee Ethel M. Cunningham, died in October, 1921. He is a member of the Pennsylvania Society Sons of American Revolution and of various Masonic bodies in Pittsburgh.

The only sister of George T. Fleming, Mary Brandt Fleming, born in Carlisle, Pennsylvania, became the wife of Harry W. Sellers, of Mt. Washington, Pittsburgh, in 1876, and died in 1905, without living issue. A brother, Horace Dill Fleming, returned to the Pacific coast in 1911.



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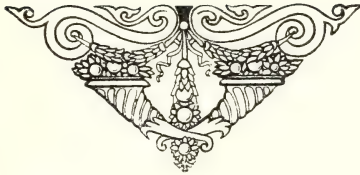
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